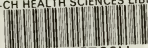


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A SOUTHERN JOURNAL OF MEDICINE AND SURGERY.

VOLUME 64.
NUMBER 1

Charlotte, N. C., July, 1911.

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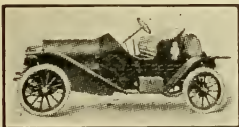
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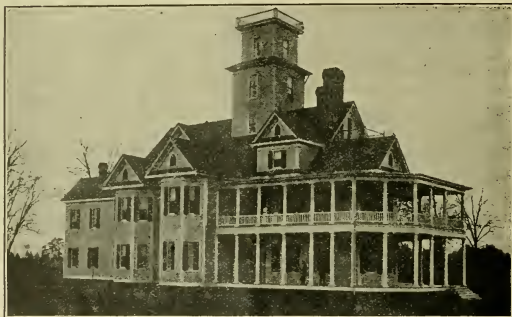
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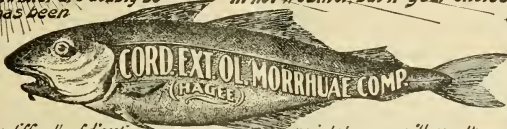
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VOL. LXIV

CHARLOTTE, N. C., JULY, 1911.

No. 1

Paresis in General Practice.*

By Bernard Glueck, M.D., Assistant Physician,
Government Hospital for the Insane, Wash-
ington, D. C.

In choosing General Paralysis of the Insane as the subject of this paper, it is not my intention to go into an extensive discussion of this, the earliest definitely established mental disease entity. Every one of you is no doubt familiar with paresis, and to some it may seem a useless waste of time to discuss a subject which has been known for generations—nay, even centuries back. However, in spite of the great amount of knowledge which has been, and still is being spread regarding this disease, we still continue to meet with the disastrous calamities which our paretics bring upon their associates, their families and themselves, because of the failure of an early recognition of this, one of the most terrible of human scourges. Terrible, because it strikes its victims at the very zenith of their activities, because it picks its prey from among the stoutest and most useful pillars of society. It is because of this frequency of disastrous tolls which the paretic brings, because of the wallings, the regrets, the shame and disgrace of the wives and children of the paretics; and because most, if not all of these misfortunes could have been avoided by an early recognition of the disease, that I feel that a few words concerning our latest knowledge regarding this subject would not be amiss. As I write these lines, some of the doings of the early paretics which have come to my attention, crowd my mind. I can still see the distracted mother bewailing the fate of her poor abandoned and wronged children, who were left penniless by the squanderings of a previously respectable, industrious and successful business man, who fell a prey to unscrupulous sharks during the early stages of his disease. The memory of the unfortunate, heart-broken bride of a few weeks, with the tears streaming down her face, while she read to me the pathetic lamentations of another victim of her polygamic paretic husband, still clings to me. And then there is that endless trail of shame and disgrace left behind by former respected and honorable citizens, the frequent suicides and homicides. And yet most of these are avoidable evils; the ability of the family physician to recognize this disease at its onset would have pre-

vented the great majority, if not all of them.

At the outset I wish to state that I intend to limit myself to a succinct presentation of those facts which may be of the utmost importance to the general practitioner in dealing with a case of paresis. I must, however, bow to custom, and introduce my subject with a description of its nature, and I can do this no better than by quoting Kropelin's definition of paresis—namely, "Dementia Paralytica is a progressive deteriorating process which leads to a complete destruction of the psychic and physical personality, accompanied by characteristic irritative and paralytic nervous manifestations." Like its at present undoubted progenitor, syphilis, general paresis may manifest itself by any group or combination of groups of mental and physical disturbances; and unlike syphilis, we have so far not found a cure for it. The paretic may have shorter or longer remissions of comparative tranquility of mind and body; he may linger with the disease for a shorter or longer period; but sooner or later it brings complete annihilation.

Rather than repeat what can be found in any modern textbook on the subject, I will present to you the histories of the onset of the disease in some of our paretics, in order to show how variable this disorder is in its manifestations, and what great difficulties confront us in making an early diagnosis of same.

CASE I—D. B. J., male, 35 years of age, Lieutenant in the United States Army. Admitted June 5, 1910. Had a primary lesion five years ago. The patient was always of a cyclothemic makeup; would be very bright and cheerful at times, while at other times he would be subject to morose spells, lasting from a few hours to a week or more, during which he would barely speak to his friends. He was well up until May 27, 1910, when he began to become excitable and irritable, sent numerous telegrams to various officials, colored with grandiose ideas. He showed a very marked psychomotor activity, emotional exaltation and a slight flight of ideas. He was admitted to this institution with a diagnosis of manic depressive insanity, manic attack. At the time of his admission he was in a highly ——— maniacal state; was busy all the time with one thing or another, bedecked himself with vari-colored ribbons and fancy pins, dispatched numerous messages

*Read before the Georgetown Medical Society, Washington, D. C., 1911.

to persons of prominence in the country. These contained orders for the movements of ships and troops. He ordered a battalion of soldiers and full equipment to be stationed at the hospital, was very exalted emotionally, wore a constant smile and was very courteous and polite to those about him. He was well oriented in all spheres and showed no physical or neurological disturbances suggestive of an organic brain disease. He was witty and jocund, and appreciated quite fully his surroundings. After a week or ten days his excitement fully subsided, and to the casual observer he presented a normal appearance, was clean and neat in his habits, knew where he was and the nature of the place, talked coherently and rationally on all subjects. His insight was not perfect; he did, however, admit that he had passed through an excitement and added that he spoke of these various bizarre ideas just to play a joke on some of his friends. He continued to improve, and on August 17, 1910, was given parole to the city. This he did not abuse in any way, and came into no conflict with his environment. On September 28 he was allowed an extensive visit to his home. At that time he made quite a normal impression mentally, aside from not having perfect insight into his condition. Physically, the only sign present was a slight tremor of the tongue; eyes and reflexes unaffected.

The sudden onset of this case, the presence of marked psychomotor activity, the flight of ideas, the emotional exaltation, the absence of neurological disturbances, and the history of the patient having been subject to quite marked fluctuations of his affect-tone, would easily lead one to consider it a case of manic depressive insanity. The expansive delirium which was present, together with the bizarreness of his delusions, of course made the case somewhat atypical. However, grandiose delusions are to be considered as a part of the manic phase of manic depressive insanity, and it is only the expert who is able to see the faint evidences of bizarreness, and the improbability of the delusional system which distinguishes the paretic. At the suggestion of Dr. White, an examination of the blood serum and spinal fluid was instituted soon after the patient's admission, and the findings definitely established a diagnosis of paresis. The blood serum was repeatedly double positive to the Wasserman reaction, while the spinal fluid showed a marked pleocytosis—196 cells per cu. m.m., plasma cells, a positive Noguchi butyric acid reaction and a positive Wassermann.

CASE 2—J. S. B., male, 54 years of age. Admitted February 4th, 1910. He was

previously an active and skilled workman. Commenced to suffer from insomnia about November 15, 1909. Was depressed during the day and sleepless at night. Became very quiet and reticent, in contradistinction to his previous loud and boisterous makeup, melancholic and fully convinced of the idea that he was to be arrested because he was not working; threatened to commit suicide by shooting or cutting his throat. On admission to the hospital he was very much depressed and seclusive, took no interest in his surroundings or personal appearance, showed a marked retardation in both speech and action, suffered from insomnia and his appetite was poor. His general attitude indicated a stuporous depression, and he evinced ideas of being persecuted for certain misdemeanors on his part. From the age of the patient, his profound depression and apprehension of being arrested for not working, and the suicidal tendencies, the case was considered a depression, most probably of the involutional period. The patient, however, demented very rapidly, and developed later a speech defect which led to the suspicion of paresis. Examination of the blood serum showed it to be double positive to the Wasserman reaction. Spinal fluid showed the following: Cells per cu. m.m. 65; Noguchi test positive; 3% plasma cells—findings which, together with the mental and physical picture which the patient presented later on, made a diagnosis of paresis positive.

CASE 3—T. J. A., male, aged 63. Admitted May 10, 1909. Has led a dissipated life. Mental weakness noted some time before admission. Was picked up on the street in a confused state of mind; did not know where he was or recognize those about him. Memory was very much impaired. Patient rapidly demented during his stay in this institution. He did not evince on admission any signs particularly suggestive of paresis. Examination of the spinal fluid showed a pleocytosis of 312, with .5% plasma cells. On July 28th, 1909, Wasserman reaction with the blood and spinal fluid was double positive. On July 29th, two days before he died, the pupils reacted well to light, both direct and consensual, and to accommodation. Skin reflexes failed to respond, patellar O. K., no Binkski or ankle clonus, both plantars O. K., no contractures or atrophy of muscles. Patient was absolutely demented. Section of the brain at autopsy showed characteristic picture of paresis,—great number of plasma cells, marked infiltration of vessels, Stabchen cells and ganglion cells degenerated with pigment formation. This case was diagnosed on admission as arteriosclerotic dementia, owing to the age of the

patient and the absence of characteristic physical or neurological signs. The later development of a speech defect, however, led to the suspicion of paresis, which was substantiated by the laboratory findings.

CASE 4—P. D. R., male, 12 years of age. Admitted April 6, 1909. Illegitimate child. Presumed father had syphilis. Mother died of paresis in September, 1909, autopsy confirming diagnosis. The patient was normal until three months old, when he developed a rash over his body which a physician recognized as syphilis. He was treated for some time for this disease. When quite an infant he was sent to St. Anne's Orphan Asylum, and at the age of 7 was transferred to St. Joseph's Orphan Asylum. He was a good looking child, bright, alert, kept up with the boys of his age in class, reaching the fifth grade: was attentive, active, fond of play, and in every way seemed like a normal child until about October, 1908. The mental change was so insidious as to be scarcely noticeable. He became absent-minded in his school work and play, slow, hesitating; seemed to have difficulty in grasping the questions and following the lessons. His answers became more and more incorrect; he began to make mistakes in repeating his prayers, which he has said twice daily for five years. Early in June, 1909, his voice became high pitched, he spoke more slowly, hesitated over words of more than two syllables and his writing became slovenly and illegible. The mental deterioration was gradual, without excitement, depression or delusional formation. He fabricated on a few occasions without provocation, and pilfered various articles from the other boys—both traits foreign to his makeup. For a month before admission he was very dull, and was frequently reported for being untidy in his habits. His face became inexpressive, facial muscles tremulous, and he had difficulty in thinking.

On admission to the Government Hospital for the Insane he showed a general loss of muscular strength, slight awkwardness in gait, both knee kicks were exaggerated, both tendo-achilles exaggerated, pupils both irregular in outline and slow to react to light and accommodation; sympathetic absent. Special senses slightly dulled, very coarse facial tremor; fine muscular tremors over whole body. Tongue showed coarse tremulous phenomenon. Some inco-ordination of upper and lower extremities, especially in finer movements. Speech was stumbling, with hesitation and elision; writing showed irregularity in formation of letters, carelessness and excessive pressure with the pen. Examination of the spinal fluid showed a pleocytosis of 68, with 1%

plasma cells. Mentally he was somewhat frightened on admission, his face was dull and expressionless, and he did not appreciate his surroundings or volunteer any information unless spoken to. He was partially disoriented, had no insight into his trouble, memory was defective for both recent and remote events. The case ran quite a typical course until the time of his death, Dec. 20, 1909. Autopsy confirmed the diagnosis of paresis.

This case is of interest because cases of general paralysis in children are being more and more frequently recognized. At the present time there have been reported several hundred cases of juvenile paresis. The general practitioner should think of paresis in all cases of progressive mental impairment in children.

As will be seen from the above, aside from the last case, a definite early diagnosis would have been impossible in these cases had it not been for the serological and cytological findings. These cases, however, show the exceptional ways in which paresis may set in. As a rule, the disease manifests itself by a gradual change in the individual's personality. As one of the earliest signs of the paretic's mental impairment, one may notice a very apparent and striking difficulty in perceiving and appreciating new impressions. He becomes distractible, inattentive, does not appreciate occurrences in his environment with his former acuteness and clearness, fails to pay attention to details, and does not take an active part in conversation; he becomes irritable, mistakes the identity of persons and things, overlooks important changes and innovations in his environment; his memory becomes impaired, he fails to keep engagements, will not apply himself for any length of time to mental effort; his moral sense becomes dulled. A moral citizen of a community may become an ardent worshipper at the shrine of Venus and Bacchus. These slight dullings of the intellectuality may, individually, be easily overlooked; however, when the collective effect they produce on the individual is taken into consideration, no mistake need be made regarding their significance. Especially is this true when they concern a previously successful, well behaved individual of middle life. The disease may, on the other hand, be ushered in with a predominance of physical manifestations, while the mental weakness may be so insidious in its onset as to remain unperceived for some time. The paretic may begin to show evidence of general indisposition and lack of energy in his daily work; general lassitude, insomnia, headache and loss of appetite. His associates may notice that he is losing his former snap in doing

things; all mental and physical exertion seems to be elaborated with an extraordinary effort. The wife may become aware of her husband's illness through his sexual impotence, and the entire picture, especially occurring in a previously active and busy individual, is frequently readily diagnosed neurasthenia, but what a vast difference exists between the reaction of the neurasthenic and that of the paretic. The neurasthenic is very conscious of his ailments, much more so than those in his immediate environment. He is very prone to exaggerate and elaborate his ills; he speaks of them on the least provocation; is entirely wrapped up in them, forces them upon those about him, and makes his ailments the topic of conversation. The annoyances and trials which such cases present to the physician are familiar to us all. Let us turn to the paretic. His reply to an inquiry as to his health is frequently, "I never felt better in my life." He may perhaps add, "I am a little tired out from working too hard; you know I am extremely active and busy; I am going to do this and that, etc." He is not conscious of his deficiencies and has no insight into his condition. It means nothing to the previously immaculate and scrupulous dresser to leave his house without a necktie, or to fail to change his linen. He does not appreciate the fact that, whereas previously he could perform a day's active work, he now tires after slight application. He may go to see a physician but will assure the latter that he did this only to appease an unwarranted and groundless anxiety on the part of his family, as there is nothing wrong with him. Occasionally, however, we come across a paretic who, in the early stages of the disease, has some insight into his condition.

We have seen, so far, how varying the early manifestations of the paretic may be, and were I asked to name the most characteristic thing about paresis, I would unhesitatingly say, the multiformity of its manifestations. It must be remembered, however, that whatever colorings this picture may take, it is always upon a background of a deteriorating process which gnaws at the roots of the individual's personality, and gradually leads the one-time intricate and wonderful human organism to a purely vegetative existence. Now then, when confronted with a picture like this in a previously healthy and active individual of middle age, in whom there cannot be found a tangible cause for the mental disturbance, what is the physician to do? In the first place, he should never fail under these circumstances to consider the possibility of paresis, and having done this he should employ all means at his disposal to

establish or rule out the existence of same. It is only a very short time since our sole aid in the diagnosis of this disorder consisted in the physical and mental clinical manifestations, and a diagnosis was only made in rare instances in the very early stages of the disorder; for the mental picture of the disease may, to the inexperienced, simulate any other psychosis; the physical manifestations may be wanting for a considerable length of time, and in some cases may be absent throughout the entire course of the disease. The family physician, however, must recognize paresis in its very earliest stages if he is to prevent the disastrous calamities wrought by the early paretic. He must seek, then, a more reliable aid than the variable clinical signs—an aid which can be weighed and measured by definite standards, and this aid has been quite well established by the modern serological and cytological studies of paresis.

In our present light on the nature of paresis, we may take it for granted that whatever other factors enter into the causation of same, its all important and essential etiological factor is syphilis, and the physician will therefore try to establish or rule out this first and most important link in the chain of evidence. This can, at the present time, be determined almost without fail by the aid of the complement binding reaction. It is well to mention here that anti-syphilitic treatment modifies the Wassermann reaction very markedly for some time afterward. The length of time which elapses since the infection plays no role as regards the Wassermann reaction. It is obtained as soon as three weeks after the infection, and Dr. Hough found a positive reaction in a tabetic who has been confined to the Government Hospital for the Insane for seventeen years, and who contracted syphilis before the Civil War. In a negro 77 years of age who contracted syphilis at the age of 19, the Wassermann reaction showed traces of a previous syphilitic infection. A persistent negative Wassermann reaction almost definitely rules out paresis. On the other hand, a positive reaction of the blood means one of three things which have to be differentiated: We may be dealing with a syphilitic lesion of any organ of the body; or it may concern syphilis of the nervous system; or lastly, it may be either one of the two parasymphilitic diseases—tabes or paresis. The differential diagnosis between these affections has been made comparatively easy and quite certain by the recent study of the cerebro-spinal fluid. An organic affection of the central nervous system will show unmistakable evidences in the cerebro spinal fluid; there will be primarily an increase in the protein contents

of the fluid, as demonstrated by the Noguchi, Nonue-Apelt and the Pandy reactions. A count of the cellular elements of the fluid will show an increase in the cell content—a pleocytosis. These may range as high as 700 per cu. m.m. Having established the existence of an organic affection of the central nervous system it remains to determine whether such affection is due to either a syphilitic or a metasyphilitic process. The differential study of the cellular elements of the cerebro-spinal fluid settles almost invariably this question; namely, the finding of the so-called plasma cells in the cerebro-spinal fluid in an individual with a positive Wassermann reaction of the blood almost definitely establishes the existence of either one of the two processes—a luetic or a metaluetic one. Plasma cells, however, have also been found in other disturbances of the nervous system, such as tuberculosis, cystocercus and typanozomiasis.

We are now confronted with the problem of determining whether in a given case of organic disease of the central nervous system we are dealing with an ordinary syphilitic or metasyphilitic process. The latest reports of the most prominent workers in this line lead one to conclude that this is possible as a general rule. Exceptions, however, seem to exist. Here again we rely upon the complement binding reaction—not of the blood but of the spinal fluid. A positive reaction almost absolutely justifies a diagnosis of either tabes or paresis, while a negative reaction makes the existence of paresis highly improbable. The differential diagnosis between tabes and paresis is at times extremely difficult, and must depend largely upon the definite clinical pictures which the two diseases manifest. Paresis is primarily an affection of the cerebrum; tabes, of the cord. The physician should not forget that, while at the present time the laboratory diagnosis of paresis is the most certain and reliable one, the clinical features must not be neglected but correlated with these laboratory results. It is only by doing so that we have done all in our power towards establishing a diagnosis.

Considering the value of the aid which the laboratorian can give us, and how much depends upon it, it behooves us to be very careful in these investigations. They should not be entrusted to every comer, but should be placed in the hands of some one who is not only experienced in laboratory work, but who is a specialist in serology and cytology.

While some objections may be raised against the performance of a lumbar puncture, especially in private practice, these

can easily be overcome. A lumbar puncture, however, should always be considered as a major operation, and appropriate precautions taken in the performance of same, although its attending danger is practically nil. Especially is this true of paretics, who seem to stand lumbar puncture exceptionally well. At the Government Hospital Dr. Hough has performed as many as five punctures on the same individual without ill effects.

Having thus far considered the laboratory aid which we have in the diagnosis of paresis, let us look over briefly the value which the respective clinical symptoms possess. Of the somatic disturbances of the paretic the following should, above all others, be borne in mind:

Speech Disturbance.—This is one of the most constant accompaniments of paresis. The disorder may be of an aphasic or articulate type. The latter, however, is the more common one, and is due to a disorder in the innervation of the articulatory mechanism. There exists primarily a slowing, a hesitancy in speaking, a pausing between syllables. These patients lose the faculty of rapid transition in pronunciation. To overcome this the paretic tries to simplify the words by omitting parts of them, which results in a slurring and elision. As a result of the great effort he exerts in co-ordinating the musculature of speech, various other facial muscles are brought into play; and while trying to talk the paretic's face may be seen in all sorts of grimacing expressions. The voice loses its intonation—the speech melody—and frequently the first symptoms of paresis in singers is this loss of vocal ability. The importance of the speech disturbances in paresis has been known for a long time, and was recognized by Esquirol when he stated “L'Embarass du parole est une signe mortelle.” In Kropelin's clinic speech disturbances were found in 80% of the male, and 82% of the female paretics.

Disturbances in Writing.—These occurred in Kropelin's clinic in 73% of the cases. These disturbances simulate those of the speech mechanism. We find ataxia, tremulousness and irregularity. The omission, substitution or addition of letters or syllables is common. As the disease progresses the writing becomes absolutely illegible.

Disturbances of the Oculo-motor Apparatus.—Not only the pupils are more involved, but any of the muscles or groups of muscles of the eye may be affected. We frequently see a unilateral or bilateral ptosis, a restlessness and tremulousness of the bulb. Complete ophthalmoplegia is rare. The pupillary changes are the most significant ones, however. Here we observe the changes

in the contour, size and motility. According to Dr. White, the Argyle-Robertson pupil is found in 45% of the cases, a sluggish reaction to light in 28.3%, and a normal light reflex in 26.3%. As you will recall, one of the cases herein reported, the 66 year old paretic, had well functioning pupils up to the time of his death. In the report of Kropelin's clinic for 1906-7, distinct disturbances of pupil reaction were found in 65% of the male, and 75% of the female paretics.

Sensory Disturbances, especially hypogesia, were found in about 62 per cent. of the cases. These figures, however, are uncertain, owing to the fact that the co-operation of the patient is not as a rule, sufficient to warrant accurate results. Of the tendon reflexes the patellar is the one to be especially considered. It may be normal, exaggerated, diminished or lost on one or both sides. Exact data as to the frequency of disturbances of this reflex have not been definitely established. It is most commonly exaggerated in the cerebral type, but the exaggerated reflex is not as important as the loss of it. In Kropelin's cases it was absent in 17 per cent. of the male and 24 per cent. of the female paretics. In a report of the study of the patellar reflex in 2301 cases studied by him and other authors, Dr. Franz gives the following:

2499 cases, or 21.7 per cent., patellar reflex was absent.

109 cases, or 8.2 per cent., patellar reflex was diminished.

675 cases, or 29.3 per cent., patellar reflex was normal.

938 cases, or 40.8 per cent., patellar reflex was exaggerated.

The epileptiform seizures may at times be the first manifestation of the disease, and the development of an epileptiform attack in middle life, without a history of previous attacks, should at once put the physician on guard. These seizures may be slight or severe, may involve any portion of the musculature, and may be accompanied by loss of consciousness or not. In general, they last longer than the epileptic convulsions, and occurring in an individual from 30 to 40 years of age, without a previous alcoholic or epileptic history should at once suggest paresis. The apoplectiform seizures resemble in every way true apoplexy, but the resulting paralysis is less apt to be permanent.

In closing I wish to say a few words in regard to the prognosis of the disease. We should have no difficulty in predicting the ultimate outcome of paresis. Paresis means death in a comparatively short time. We are frequently called upon, however, to state how long a given case is going to last.

Authors differ as to this, but aside from the rare exceptions, the majority of them agree that nearly half the paretics die within the first two years of the disease. Of the 240 cases studied by Kropelin 51 died in the first year, 63 in the second, 52 in the third, 41 in the fourth, 22 in the fifth, 4 in the sixth, 5 in the seventh, 2 in the eighth, 2 in the ninth, 1 in the tenth, and 1 in the fourteenth year.

Nothing much can be said as to treatment. Once the disease is recognized the patient should be placed under proper supervision, whether in or out of an institution. The general practitioner's chief activity lies, therefore, in the early recognition of the disease, and to emphasize this necessity has been the aim of this paper.

Some Important Points in the Diagnosis and Treatment of Bone Disease *

By J. A. Williams, M. D., Greensboro, N. C.

In selecting this subject, I select one which will interest both the physician and surgeon and I am sorry to say one which we have all more or less neglected. In the first place it is a subject which by early diagnosis and treatment can be greatly benefitted with but little surgical interference, while on the other hand by allowing it to continue on for a long period of time will finally end by having to resect or amputate and thereby necessitate a stiffened joint or loss of a limb to the patient. This subject also calls for a hearty co-operation of both the physician and surgeon in order to accomplish the best results in the end, and thereby give to the patient a limb which is most useful. In order that we may have a more intelligent idea of the disease of the bone, let us examine a little into the pathology and micropical anatomy of the bone.

For instance, we have bone divided into long and short or spongy bone. Long bones are divided into the shaft and epiphysis. The shaft contains the medullary canal, which cavity contains the chief blood supply of the bone, excepting that which it gets from the periosteum. The epiphysis gets its blood supply mostly from this source.

Now the shaft has a better supply of blood than the epiphysis, therefore the epiphyseal end of the long bones and the spongy part of the short bones are the ones most likely to become infected by an embolus of tubercular diseases or any ordinary infection following long continued fevers like typhoid or any of the infectious diseases with long continued fevers due to a stagnant blood supply of the parts, also bruises

*Read before the North Carolina Medical Society, Charlotte, N. C., June 20-22, 1911.

or injuries to parts, lowering its vitality. Therefore the most frequent parts infected are in the epiphyseal end of bone.

Now all joints are lined with a serous membrane, composed of the endothelial cells lying on a fibrous base, and lying between this and the bone itself is a layer of cartilage.

Again any infection located in the epiphysis of the bone will necessarily give rise to more or less irritation which is aggravated by a motion or movements of the joints in ordinary use. Therefore we should bear in mind that in any infection of the bone in the epiphyseal end, the first thing to do is to fix the joint, immovable, in order to prevent movements of the joints, and at the same time giving extension to separate, as far as possible, the articular surfaces, thus preventing a complication of the joint becoming involved, which is always secondary, caused by a gradual eating into; first the cartilage, and then finally through the serous membrane into the joint.

Now I do not propose to go into the minutest detail of the diagnosis and treatment, because it will take up too much of your time. However, I want to give you the most important points, which I am sure if you will follow, will give great aid in the diagnosis of these cases and greatly benefit you in carrying out the treatment. In order to facilitate I will take the knee joint, as this is the most frequent joint involved.

1. *Tuberculosis*.—The symptoms are slow, at first there is slight pain, slight stiffening of the muscles causing flexion, tenderness over the region of the joint causing pain, which causes night cries, due to the spasm of the muscles.

The flexion and spasm of the muscles is more noticeable in the morning, decreasing with the increase of exercise. There may be a slight increase of temperature, especially in the evening.

These symptoms may go on for some time and then subside, and then we naturally think the patient well, only to find in a few weeks the same symptoms returning much more aggravated; there is more tenderness, more spasm and stiffness of the muscles, more pain, more flexion of the joints, later the joints becoming more swollen due to the exudate into the soft parts and surrounding tissue, the joint almost fixed, due to the muscular spasm, and finally there is muscular atrophy, abscess, sinuses, floating patella due to exudate into the joint, rounding out of the general contour of the joint. Following this, external rotation, crepitus, subluxation, etc., showing a complete degeneration of the joint. This is the true picture of the tuberculosis of any joint.

2. *Acute Osteo-Myelitis*.—On the other hand this disease comes on suddenly, usually ushered in by a chill, followed by a high fever, accompanied by an intense pain over the region of the parts involved, running an acute course, both local and constitutional.

In the osteo-myelitis the shaft is the common seat of the disease, while in tubercular cases the epiphysis is the common seat of trouble. In osteo-myelitis the sequestra are long, flat, thin, hard, yellow flaked and worm eaten, with a great quantity of newly granulation tissue, and new bony formation. In tubercular cases the sequestra are small, fragile, ragged, caucerosus tissue, lined with tubercular granulations.

3. *Arthritis Deformans*.—This occurs mostly in old people and rarely in the young. There is always a number of joints involved in this disease. There are no exacerbations of symptoms, no cares, or sinuses as you will find in tubercular cases. There is absence of intense pain, high fevers, acute local and constitutional symptoms of osteo-myelitis.

4. *Charchots Disease*.—This disease usually occurs in old people with a history always of syphilis, frequently following tabes dorsalis. There is absence of intense pain and high temperature as in osteo-myelitis.

5. *Osteo-Sarcoma*.—In this disease the growth is very rapid, with but little pain, rarely any temperature, no redness or glazing of the skin over the tumor and usually occurring in the shaft of the bone. There is rarely any interference with the function of the limb until the latter stages of the disease, which is frequently complicated with spontaneous fracture.

6. *Acute Inflammatory Rheumatism*.—In this disease there is usually a number of joints involved with intense pain and high fever with early infusion into the joint, causing a floating patella. It runs an acute course, clearing up of one joint as successive joints are involved.

Treatment.—In tubercular troubles extension and fixation of the joint, giving complete rest, is of most essential importance. This can be best done with plaster casts or splints of various kinds with extension by weights, braces, etc. Never open a tubercular abscess if you can avoid it; if it gets very large and has to be opened do so with strict antiseptic precautions in order to prevent a mixed infection. Again if you have to curette it is not necessary to curette all the diseased bone; simply remove most of the broken down necrotic tissue and leave the healthy granulations, doing this under strict antiseptic precautions. In case you remove the pus from the cavity you might inject iodoform emulsion, or still

better, Beck's Bismuth Paste (33 1-3 Bismuth, 66 2-3 yellow vaseline).

Osteo-Myelitis.—In these cases the cavity of the bone should be opened immediately and be given free drainage, even a small opening will be sufficient in some cases but it is usually better to open wide, chiseling or curetting out the dead bone. It is wonderful how nature in these cases will take care of itself if we will only assist it a little. After opening and draining it will be a good idea to pack with iodoform gauze, changing from day to day, till the cavity is filled up with healthy granulations.

Summary.—I will enumerate, that first nearly all tubercular trouble begins in the epiphyses of bone and the joint is always secondarily infected from this source and never primarily.

Second.—Fixation and extension in these cases will often prevent extension into the joint if taken early, and thereby prevent joint complications.

Third.—Never open a tubercular abscess except under the strictest antiseptic precautions, thereby preventing mixed infection.

Fourth.—In cases of osteo-myelitis it should be opened early, given free drainage, removing all dead bone, leaving the periosteum and healthy granulations.

Now if these points are well considered and adhered to, even in doubtful cases where an injury has been received to a bone around a joint, early fixation and rest will often prevent a more serious complication requiring a more extensive operation of resection or amputation, and the loss of what might have become a useful limb.

The Achievements and Victories of Medical Science.

By J. W. Williams, M.D., Richmond, Va.

When we look backward over the centuries and note the gradual progress of Medical Science we are amazed at her victories and achievements in our day. We know of no class of men who are doing more to roll back the tide of human suffering, to brush away the tears from human eyes and to fill human hearts with hope and sunshine than physicians. Opposed in every age and in all countries by ignorance, and not strangers to ingratitude and persecution, they have pushed their investigations, always at the expense of ease and comfort; laying under contribution the lower animal creation in their experiments and researches; begging the bodies of criminals from governments and from States in pursuit of their anatomical and pathological investigations that they might better equip themselves for their life-work and hand down their findings and discoveries to their

medical brethren of succeeding ages, until thousands of them, worn out by patient toil, and with the plaintive cry of the sick ringing in their ears and the pleadings and sufferings of the poor tugging at their hearts, have, finally, offered their lives a sacrifice upon the altar of science.

All the victories and achievements of medical men, upon all the battlefields of Medical Science have been won at the point of the bayonet. Their most intolerant opponents have been the theologians. The scientists in the fields of chemistry were declared to be in league with the devil and were maligned, ridiculed and persecuted from the days of the old alchemists down to our friend, the State Chemist of Virginia—Dr. Taylor, whose modesty will excuse this reference to his talents and worth. In 1317, Pope John XXII issued his bill against the chemists; France followed, instigated by the clergy, in the laws of 1381; and Henry IV of England in 1404. Pope Innocent III, forbade all surgical operations; Pope Honorius interdicted the practice of medicine and Pope Boniface all dissections as sacriligious. Upon the heads of anatomists and physicians, the clergy poured all the vials of their wrath. They originated "*Ubi sunt tres medici ibi sunt duo athaei*"—where there are three physicians there are two atheists—a statement we have branded as false. As late as the last century Dr. Jenner, the apostle of vaccination, had to defend his discovery against the theologians of Europe. The Rev. Edward Massey preached a sermon upon "The Dangerous and Sinful Practice of Inoculation." The Rev. Dilafay another upon "Inoculation an Indefensible Practice." In 1753, the Bishop of Worcester denounced Jenner from his pulpit. The theologians of France followed the examples of their English brethren. In 1798, the theologians formed an anti-vaccine society and called upon the people of England to suppress vaccination as "Bidding Defiance to God." And in 1803, the Rev. Lumsden ridiculed and abused him before the University of Cambridge.

In 1847, just sixty-three years ago, Dr. James Y. Simpson discovered chloroform, and science again conferred upon mankind a priceless gift to relieve human suffering. The theologians immediately attacked him, declaring that to use chloroform was to "avoid one part of the curse upon woman." But Simpson hurled pamphlet after pamphlet at their heads, and science gained another victory, and upon the streets of Boston the people erected a monument to one of the discoverers of chloroform.

The microscope was invented in the latter part of the sixteenth century, and Richer

suggested that disease might be due to minute organisms. Here was the birth of the germ theory. The microscope was immediately brought into use. Van-Lenwenhorch pushed his investigations further (1680-1732). Andry followed. Muller in 1786, Ehrenburg in 1833. But it was not until 1863 that Divini established a connection between bacteria and disease. The first complete study of contagious disease was made by Pasteur in 1869; then Koch in 1875, and, finally, Klebs-Loeffler differentiated the bacteria of diphtheria in 1884. Ten years later, 1894, antitoxin was discovered. In 1892 Richmond had 279 cases of diphtheria with a death rate of 45.5 per cent. Antitoxin has robbed diphtheria of its horrors and laid the monster comparatively harmless at the feet of Medical Science—a death rate of 3 per cent. in many cities. How heroic the initial fight against yellow fever, in the Panama zone, inaugurated by Dr. Reid with his fifteen mosquitoes in his little screened cabin. If Dr. Jenner, in defence of his suffering patients, and in behalf of humanity, and in defiance of calumny, abuse and persecution, fearlessly attacked smallpox, extracted its sting of death, hurled the monster from his throne and forever rolled back this scourge of the human race, what shall we say of the patient work of Dr. Reid in robbing yellow fever of its sting, and, probably, eventually abolishing it from the world? What shall we say of Dr. Berring and Kittosato, who in 1890 found blood-serum taken from animals that had been rendered immune to tetanus and diphtheria would cure other animals affected with these diseases? And what shall we say of the medical men who are risking their lives today in trying to stop the "plague" that is sweeping through Asia and threatening Europe? The findings of the Opium Congress at Shanghai, China, recently has amazed us all with its 85 per cent. of cures of all morphine cases, when hitherto neither in Europe or this country could the profession hardly register one per cent. of such cases.

Medical Science has introduced National and State boards of health and inaugurated a system of hygiene hitherto unknown to the world. Physicians with their trained nurses, aided by the Red Cross Society, follow all the armies of the modern world. The army and navy surgeons of Japan in the late Russo Japanese war astonished us with their low death rate. No such class of men inspired by such lofty motives, ever followed the armies of Greece or the legions of Rome. Medical Science armed with all the known facts brought to light by microscopical and clinical investigations in actual

practice, has, today, leaped into the arena in deadly conflict with that monster, tuberculosis, whose fangs lay low in the dust of death 125,000 of our race annually in the United States alone.

Like Minerva that gracefully crowned the brow of the Acropolis at Athens and catching the rays of the sun upon her shield, spear and helmet, flashed them far out upon the stormy Algean Sea to guide the mariner safely rounding Cape Colonna that he may drop anchor within the calm waters of the Piraeus; so, the Goddess of Medicine, today towering aloft, having forever silenced the guns of the theologians and left many an ecclesiastical craft riddled by the shot from the batteries of science, wrecked and washed ashore by the waves of theological controversy, and laying all the civilized governments of the world under contribution in behalf of her benevolent work, she flashes far out upon life's troubled sea, hope and sunshine into every afflicted human heart, while millionaires pour out their golden millions at her feet and vie with each other in founding institutes of medical research, hospitals and asylums, and—worship at her shrine.

2214 E. Broad St.

Cancer of the Uterus Operable and Irremovable.*

By Jno. T. Burrus, M. D., High Point, N. C.

The reason for my assuming this paper and this idea is because of the eighty thousand people that are dying in our country each year from cancer. In my selection of a subject of such broad and unlimited expanse I want to say in the beginning that I am cognizant of the fact that I shall be unable to more than give a brief synopsis of some of the salient facts of diagnosis and treatment. My deductions for the foregoing are based largely on actual experience in personal work at the High Point Hospital, the Skin and Cancer Hospital, New York, and the Polyclinic, New York, together with data gathered from work done by Prof. Wm. Seman Bainbridge. In this connection I wish to call attention to the excellent work which is being done by Dr. Bainbridge for cancer. It became my privilege to observe something like a thousand cases of cancer treated by him, according to varied methods, such as hancleipawn crown, acetic fluid, Caley's cerum, enzymes and vaccines.

For purpose of diagnosis, I shall consider cancer of the cervix and uterine body separately. Early cancer restricted to the cer-

*Read before the 58th annual meeting of the North Carolina Medical Society, Charlotte, N. C., June 20-22, 1911.

vix alone gives rise to but two principal symptoms—a watery leucorrhœal discharge and hemorrhage. Pain is of no consequence. I want to emphasize that early diagnosis is the most important factor, without which, ends of successful treatment are largely defeated. Where there is the slightest suspicion of the presence of malignancy, a most careful exploration and painstaking examination should be made at once. Much depends on our early recognition and right interpretation of the watery discharge and menorrhagia. Never for an instant temporize, regardless of age, in the presence of a history of characteristic watery discharge, however slight, associated with irregular or atypical menstruation. The experienced diagnostician should find little or no difficulty in discovering a cervical malignancy by digital examination and the use of speculum. I regard the peculiar watery, odorless discharge as almost diagnostic of early cancer in a woman of "Cancerous age." Old lacerations where the cervical lips evert with consequent eversion of the cervical mucosa, in the presence of suspicious history, should be classed malignant, unless proven otherwise. Many of my cases of cancer of the cervix are found in women with neglected cervical tears, — of 75 cases of cervical cancer showed cervical laceration. As a causative factor I believe this to be of the greatest importance. It has been proven that any normal cell can be transformed into a malignant cell by the aid of an external irritant. I believe that the greater frequency of cervical cancer is due largely to the greater irritation and muscular activity of the cervix caused by injury to the cervix, etc., in the presence of a laceration. Nodules, ulcers and polypi should be looked upon with a suspicious and scrutinizing eye. Doubtful conditions should not be watched, but surgically treated. I always have the pathologist reports, and his services have been of signal aid, but in some of these cases, I believe that the promiscuous curetting for specimens for the pathologist should be condemned for the reason that there is danger of kindling a slow growth without metastasis, (changing the operable to the inoperable, and hope to despair).

After exhausting all means at hand to make a diagnosis, and the condition is found suspicious and obscure, treat surgically—the sin of omission is greater than that of commission. It is not the purpose of this paper to enter into a discussion of a classification of cervical cancers. Suffice it to say that the intra-cervical cancers are more difficult to diagnose than when the vaginal portion of the cervix alone is diseased. From a diagnostic standpoint the intra-

cervical form presents chronic symptoms in common with that of the uterine body.

Primary cancer of the body of the uterus is a comparatively rare condition. Bullard, in "Surgery, Gynecology and Obstetrics" in 1908, reports 686 cases collected by different surgeons and found the body of the uterus primarily affected in only thirteen of the cases, showing the occurrence to be less than two and a half per cent. of all cases of uterine cancer. The distinctive characteristics of this form is its slow growth, less pronounced symptoms, and comparatively low percentage of metastasis. In this form too in the early stage the watery leucorrhœal discharge with irregular and, may be, slight hemorrhage, is present. It is not necessary to have all the text book symptoms of a uterine cancer to be able to make a correct diagnosis. An enlarged uterus watery discharge and irregular bleeding, other causes being eliminated, is sufficient to warrant a diagnosis. If necessary, curette and get the pathological findings. Recurrences are rare in this form when operated early with removal of uterus and adnexa. My experience teaches me that the necessary operation should be performed immediately after a curetting, providing the findings are suspicious. (In this paper I have purposely omitted sarcoma, as the diagnosis and treatment presents much in common with carcinoma).

The dividing line between operable and inoperable or inoperable cancers has always been to me imaginary and obscure. A case classed inoperable by one surgeon might be termed operable by another, and vice versa. The consensus of opinion is that in all cases where diagnosis is made sufficiently early there is no question as to the correct treatment. At this stage they are all easily in the operable class. No present day surgeon would hesitate after an early diagnosis had been made. (In diagnosis I have purposely omitted the train of symptoms found in the more advanced stage of cancer of the uterus. The diagnostician is rarely ever in doubt in well developed cases).

In concluding the issue of operable and inoperable cases certain factors bearing on prognosis proves to be the determining influence of decision. In summing up these factors particular notice should be given age and physical condition of patient, the particular type of tumor and local characteristics presented by the growth. The extension of the growth to the bladder, rectum, vagina and parametrium together with metastasis to the iliac lymph nodes should receive closest and most differentiating study. In summing up I shall divide the operable into two classes. First, the "easily

operable" case, where the diagnosis has been made. In this class the mortality is low and percentage of recoveries comparatively high. In this connection I will report a case with diagnosis and special form of surgical treatment. Also results.

Mrs. W., age forty, apparently in perfect health, was seen three years ago this June. The only symptom present was copious watery discharge from the vagina. Previous to this time she gave a history of menses lasting four days, coming regular without pains or discomfort; and the first symptom present was that the menses continued with the patient two days longer, making a total of six days. For these symptoms the patient consulted her local physician, who referred her to the hospital that I was connected with at that time. Examination was made of the vagina, uterus and its appendages, which examination disclosed a previously lacerated cervix which was eroded, lacerated, everted and exceedingly sensitive to touch. It is readily seen that this was a pre-cancerous condition, to say the least, if not at that time truly malignant. The patient was placed in the hospital and a bi-opsy made; which showed a very rapidly growing carcinoma of the cervix. The abdomen was opened two days following the pathological report. The entire uterus, with as much of vagina as could be removed, the ovaries, the broad ligaments and the pelvic glands were removed, doing what we know as a Vertine operation. This patient made an uneventful recovery and now three years have elapsed and the patient has not returned to the hospital up to this time for treatment, but *had* reported herself apparently well. I had an opportunity of observing a number of Dr. Bainbridge's patients that he had operated four and five years previous in the same way. Patients were apparently in perfect health.

The second case I will term "difficultly operable." The great number of apparently inoperable patients seen who have gone the rounds reflect discredit on the diagnostic acumen of our profession. However, I believe that we are awakening to the true surgical possibilities in all cases. In the "difficultly operable" class I place on the doubtful list many which are generally termed inoperable. Many of the apparently inoperable cases will be found, after exposing the true condition by an exploratory laparotomy, amenable to surgical intervention, who might otherwise be treated along palliative lines. I am well aware of the fact that the comparatively high mortality rate and low percentage of cures reflects adversely on surgery in some of these cases, but the benefits as a whole

justify to my mind the procedure. If in doubt, make exploratory laparotomy. Owing to the fact that the size of the cancer growth does not bear a true relation to metastasis, it is my policy to do a complete and thorough operation in every case, making all necessary dissections with the widest possible excisions. Many cases with an apparently hopeless prognosis are practically cured or their lives prolonged many years, while on the other hand cases with optimistic prognosis are little benefited. Consequently I believe that it is our duty to do complete and thorough surgery in all cases. Such cases referred to, or cases where there is a metastasis in the broad ligaments, such metastasis is not bound down, neither is it connected with the rectum or the bladder, and before carcinosis or carcinomatosis has developed. Certainly it behooves us to do something, and I believe we can greatly prolong the lives of our patients by following out the operative procedure advised by Vertine. Nothing short of this operation will benefit the patient whatsoever. I do not believe in vaginal hysterectomy as an independent surgery for malignancy, for the reason that the pelvic tissues cannot receive the necessary attention. Occasionally the combined method might be advantageous. I believe that more complete hysterectomies should be done for non-malignant conditions, thus avoiding later malignancy of the cervix.

When the malignancy has extensively involved the bladder, rectum and adjacent pelvic tissues and organs, in a manner which admits of no shadow of a doubt where the pelvis is, I class it "irremovable," but not inoperable. Our responsibilities do not end here. Much can be done in the septiable cases. We cannot cure these patients, but, if we can give them added days of comfort and usefulness with some inspiration of hope, we have indeed served a beneficent purpose. Literature is filled with results obtained by the use of the curette and cautery. I do not discard them, for they have added many days to human life. I believe that we fail, however, in doing our full duty in selected cases if we do not seek to cut off the blood supply to the growth. I would advise this in connection with cautery and curette.

THE LIGATION OF THE INTERNAL ILIAC AND SACROMEDIAN ARTERIES.

I wish to call special attention to the results which Dr. Bainbridge has obtained in this operation, which, so far as I know, is original with him. I have assisted him in the ligation of the internal iliac arteries with cases that seemed almost hopeless, where hemorrhage was so excessive tha

the patient had very little blood left in the body. And it is in this class of cases, where there is such a drain upon the system, that Dr. Bainbridge conceived the idea of cutting off the blood supply by the ligation of the internal iliac arteries and the sacro-median. The class of cases that this operation is applicable to is that class where there is a metastasis into the broad ligament extending back to the rectum involving the vaginal lymph nodes and the adnexa. Where there is the beginning of carcinomatosis with excessive hemorrhage. Now with such a class of cases as this I have seen patients unbelievably put on flesh, be relieved of pain and apparently the size of the growth reduced. I wish to urge any one who has such a case as this not to fold their hands and submit to the inevitable, but let each one of us endeavor to lower the mortality of cancer.

SUMMARY.

1st. The early diagnosis of cancer of the uterus; 2nd, the early operation in the pre-cancerous stage; 3rd, the three periods in cancer of the uterus demanding active treatment; 4th, Verhine's operation, cauterizing the uterus and the ligation of the internal iliac arteries.

Observations on Fractures of the Skull.*

By Dr. L. Sexton, B. S., New Orleans, La.

Owing to its exposed position, fractures of the skull are among the most common injuries to the head. The round dome is hardened into one compact vault as we emerge from childhood; the fontanelles close up and the sutures become firmly united. So, when a blow is received upon the head there is little chance for yielding or giving making fracture possible, not only where the blow falls on the vault, but the force may be so transmitted as to cause a fracture at the base (*contre coup*) as the base of the skull is ramified and weakened by numerous passages for nerves and blood vessels. Another cause for frequency of fractures of the vault is that the outer table is supported only by the cancellated structure underneath, which varies with the age of the patient.

The varieties of fracture of the skull are the same as elsewhere in the body. They are more apt to be complicated on account of the close proximity to the brain and its complex physiology. Thus, a blow on the vault which may not really break through both tables may so injure the dura matter as to cause hemorrhage into, or violent concussion of the brain; so, in reality, the

damage to the bone is the least of the troubles we may expect from fracture of the vault. A direct hard blow usually fractures the bone where it strikes, through both tables, unless it happens to be over the frontal sinus, when the inner plate is often uninjured. The more force the blow has, the more likelihood of a fissured or stellate fracture. When the frontal sinus has been fractured into, the secretion from the mucous membrane must not be mistaken for brain matter which it resembles to some extent. The amount of depression depends upon the force of the blow.

Symptoms.—Extreme violence of the blow may detach portions of the bone, driving them into the brain substance as the inner table is always more comminuted than the outer one. Fissured or long fractures are not so likely to be depressed as the local fracture. If the surgeon sees the case before hemorrhage or swelling takes place he can usually detect the depressed fracture. The edge of the effused blood and inflammatory zone after several days may become indurated, leaving the centre of the injury soft and causing the impression to the uneducated finger of a depressed fracture when in reality none exists.

Fractures at the base of the skull are far more serious than those of the vault. They are usually caused by indirect violence. The inside of the cranium is re-inforced by certain lines or ribs extending from the frontal sinus, mastoid process and occipital protuberance upwards; any fissured fracture from the vault usually extends downwards between these ribs. Fissure fractures, therefore, do not follow sutures. The anterior fossa may be injured by a blow to the forehead or nose. The middle fossa is the one most frequently opened. Fracture of the base of the skull through the middle fossa is usually an extension of a fracture from the vault through the petrous portion of the temporal bone; the bleeding from the ear, which is the most prominent symptom of this fracture, is caused by injury to the auditory canal or the breaking of the tympanus.

The symptoms of fracture at the base of the skull are an escape of cerebro-spinal fluid, hemorrhage from the nose and ear, ecchymosis, facial paralysis and damage to the auditory nerve; these symptoms may be followed by those of concussion and compression of the brain or hemorrhage subdural leading to unconsciousness and often to death. In fractures of the middle fossa we may have escape of cerebro-spinal fluid as well as hemorrhage from the mouth, ear and nose. The seventh and eighth cranial nerves are liable to traumatism; inflammation of the optic nerve may supervene if the

*Read before the Southern Railway Surgeon's Association, Charlotte, N. C., May, 1911.

patient survives for a week. The pulse is slow and compressible unless infection should take place, when the opposite condition arises. The temperature is subnormal at first, but like the pulse rises after the shock is over. Cerebro-spinal fluid may ooze from the nose in fracture involving the anterior fossa; when it escapes through the ear it is indication of fracture of the middle fossa. In all injuries where a patient has been precipitated onto his head or is struck by some passing object it is best not to make too favorable a prognosis until we can determine whether the fracture involves the base of the skull or injury to the middle meningeal artery. In either of these dilemmas the patient whose injury seems trivial may lapse into a stupor from which there is no awakening.

Direct injury to the base of the skull transmitted through the vertebral column may cause a circular or a fissured fracture in the posterior fossa. A very violent blow upon the chin may drive the condyles of the jaw through the glenoid cavity into the middle fossa. Nearly all of these fractures are of the compound variety and it is for this reason they are so often followed by infection. Injury through the foramen magnum, by an impact from the spine and condyles at the base of the brain, if violent, is serious, resulting in concussion and hemorrhage. Infective meningitis is the most common cause of death following these fractures of the base of the skull. As said before, the more prominent symptoms of fracture of the base are prolonged unconsciousness, hemorrhage from the ears, mouth and nose, escape of cerebro-spinal fluid through the ears or nose; this fluid is usually blood-stained but may become clear after oozing for some time.

Prognosis.—Non-interference, perfect rest and preventing infection by strict antiseptic precautions, have all tended to improve the prognosis of fracture at the base of the skull. One should be very guarded, however, in playing the role of prophet in any case where all the symptoms of fracture at the base of the skull are present. The prognosis is more favorable when the fracture is about the anterior portion of the skull. The further back the depression occurs the more serious the prognosis on account of injury to the vital centres.

Treatment.—About all the treatment that is feasible under such conditions is to ligate the meningeal artery if it is found injured; to wash out the nose with a four per cent. boric acid solution, or for the ears a one to twenty carbolic or a one to two thousand bichloride solution may be used. These antiseptic solutions should be sprayed or used every three or four hours. The head

should have clippers run over or should be entirely shaved; the patient is to be kept perfectly quiet in a dark room. The kidneys and bowels should be stimulated to action if necessary. Whenever any surgery about the skull is attempted risk of infection is very much modified, as said before, by thoroughly shaving the entire scalp as it is quite hard to cleanse the head when it is matted with hair. It is more serious to invade the brain than the abdominal cavity, and every precaution known to prevent infection should be adopted before any trephining or other operation on the skull is attempted. If the trephining is done to elevate depressed portion of the bone the lines of sutures and all blood vessels within the brain should be avoided. As a matter of course the trephining in the operation, particularly as we cut down upon the meninges, should be exceedingly delicate so as not to lacerate or needlessly traumatise the brain substance. We should also remember that the anterior meningeal artery is one and one-quarter inch backward and upward from the external angular process of the frontal bone. The posterior branch crosses or meets this line by another drawn vertical from the anterior edge of the mastoid process. Failing to find the vessel or arrest the hemorrhage by trephining over these two points the osteo-plastic resection of a portion of the skull covering both anterior and posterior branches may be made.

After syringing with the antiseptic solutions suggested the ear should be packed with sterilized gauze and in case of a delirious patient the bandage should be so applied as to protect the ear from all chances of infection. Ice bags should be constantly applied to the head, particularly if fever is present. The head may be protected from being chilled by the ice bag by several layers of flannel cloth over the vault of the cranium. The patient should be restricted to a low diet and absolute rest in a dark room, and restrained from any exercise for at least five weeks. Since the aid of asepsis and early depression of fractured vaults are successfully elevated the recoveries from depressed fractures are much more numerous. Under proper antiseptic precautions with an experienced surgeon to operate we might advocate the elevation of depressed bone from all punctured and compound fractures. In simple depressed fractures if any doubt about the inner table being involved all such cases should be left alone by the novice in surgery.

It should be remembered that it is not the immediate effect of a depressed fracture that may require elevating, but that the constant irritation of the depressed bone on the brain substance may give rise to soften-

ing of the brain or to epilepsy in after years. It should also be remembered that unless the symptoms are of such violence as to require immediate operation it is better to transfer the patient before the trephining is done to some hospital or point where the strictest antiseptic precautions can be observed. After the trephine is started the pin should be removed, the trephine should be beveled, and if it is possible to raise the bone by an elevator or hook it is better to do this than to inflict too much traumatism on an already shocked patient. After the trephine opening is made it may be enlarged by cutting pliers and Hay's saw. All the bony tissue should be replaced when it is possible to do so—even the trephine button may be put from where it was taken after the hemorrhage has been controlled—and fragments covered with periosteum should be left in place. Injuries to the dura should be sutured with catgut after the flesh and bone flaps have been turned back. All of these operations require drainage (twenty-four hours) in the most dependent portion of the wound.

In cases of doubt about the depressed fracture of the skull which may come to the experienced surgeon, make an incision down upon the seat of supposed fracture in order to be correct about the diagnosis. Shock and temporary unconsciousness from concussion of the brain are the immediate symptoms of fracture. As a matter of course more serious symptoms follow if the meningeal artery is injured, and this happens sometimes from a very slight injury to the skull which is hardly noticeable. With such an injury the patient becomes gradually unconscious and the pulse is very slow. Shock is followed by fever if infection takes place.

No scalp wound should be hurriedly closed; all possible infected material should be removed first. Scalp wounds, owing to the hairy covering, are more subject to infection than similar wounds on any other portion of the body excepting perhaps dirty hands and feet. The pyogenous staphylococci and streptococci are often found upon the dirty scalps of those who work among horses and cattle, street cleaners and laboring people generally, necessitating, to our mind, the use of clippers or the razor to remove all this possibility of infection if there has been any extensive injury to the scalp. Scalp wounds in the spring time are very likely to become attacked by erysipelas unless the strictest precaution against the same has been taken. To prevent this infection application of a ten per cent. solution of tincture of iodine or an equally effective antiseptic should be made. The hemorrhage in such wounds can usually be

controlled by direct pressure upon the bleeding vessel. The edges of the wound should be lifted and all foreign substances removed from under the scalp by injections of one to two thousand sublimate solution. Never sew up or approximate such a wound until all blood clots and foreign substances have been removed. A small drain should be left in the most dependent portion of the wound. From one to three thousand units of anti-tetanus serum should be used as a precaution against tetanus. If the wound should be in close proximity to the ear, mop out the auditory canal with ten per cent. carbolic acid in glycerin, then pack the ear with sterile gauze.

Effects of Injuries upon Certain Centres.—If the left frontal lobe (upper or middle convolutions) are involved in the injury there is no immediate effect upon sensation or motion, but more or less irritability and letting down in mental acumen, particularly if the injury is to the left side. Injury to the right frontal lobe has but little effect upon a right handed man. The power of speech is lost if the third frontal convolution is damaged in a right-handed person. We recently had such a case. A pistol ball injury in which the patient could not speak but wrote his statement to me on a card; four hours later he lapsed into unconsciousness. It should be remembered that right third frontal convolution is speech centre in left-handed people and that if only one side is damaged the other side gradually takes up the lost power of speech. Paralysis or loss of motion follows injury to the ascending frontal or parietal convolution just in front and behind the fissure of Rolando. The leg motor centre embraces the top of the ascending frontal with the entire parietal lobe. The motor arm centres are located on either side of the middle fissure of Rolando. Damage to any of these points result either in spasm or paralysis to the area they control on the opposite side of the body.

NOTE: We recently had a splendid recovery from a compound gun-shot fracture which passed through the left anterior frontal lobe producing aphasia within a few hours after the injury. The case was treated by raising the depressed fracture, instituting drainage, ice to the shaved head, and though he suffered the loss of at least an ounce of brain matter he made an uneventful recovery. He has since taken a civil service examination successfully and is now in a good state of health and intellect though a little shy on gray matter.

Charlotte Medical Journal

Published Monthly.

EDWARD C. REGISTER, M. D., EDITOR

CHARLOTTE, N. C.

THE VALUE OF LUMBAR PUNCTURE.

During the last few years lumbar puncture has become a clinical procedure. Cutaneous puncture for blood examination is an everyday occurrence and an invaluable aid to diagnosis, yet lumbar puncture not only gives us the same aid in diagnosis and practically conclusive evidence as to the condition of the meninges, but is at the same time a therapeutic measure. Originally the examination of cerebrospinal fluid was practiced by those dealing with mental and nervous diseases. Today, however, its scope is much wider and a casual review of the recent medical literature surprises one with the importance this very simple operation has attained. The conditions which indicate this procedure are met with by the general practitioner as well as the institutional man, and its proper employment becomes a matter of necessity.

Changes in the cerebrospinal fluid readily recognized occur early in all forms of meningitis, and furthermore, the causative factors can very frequently be isolated. Differential diagnosis between the various forms of meningitis is thus made possible. John Lovett Morse, in "The Archives of Pediatrics," 1911, emphasizes the value of lumbar puncture in the early recognition of cerebrospinal meningitis and the aid it offers in differentiating this condition from an early *arteria poliomyelitis*. Curshman very definitely indicates its employment in all forms of meningitis, be they tubercular, meningococcal or secondary to pneumonia, influenza, typhoid, erysipelas or of metastatic origin. He likewise advises lumbar puncture in cases of head trauma, with or without fracture of the skull, in which hemorrhage either *epi* or *subdural* is suspected. In cases of fracture of the base of the skull it is of diagnostic value. Organic changes have, by means of puncture, been shown to be present in cases of head trauma in which the sequelae were looked upon as purely functional disturbances.

Its use in psychiatry is unquestionable, and its employment is imperative when one deals with mental and nervous diseases. A State hospital that does not resort to this procedure is not modern. The findings are constant in a certain class of mental diseases, so much so that organic brain disease in the nature of general paralysis can

be diagnosed early in its course, and before the characteristic physical signs have become manifest. As an aid in differentiating the functional psychoses from those of an organic nature it is of invaluable assistance, since the purely functional psychoses never show pathological changes in the cerebrospinal fluid.

Fortunately a puncture for diagnosis is in many cases a therapeutic measure highly recommended by the best authorities. In the acute inflammatory forms of meningitis the removal of ten, fifteen, or occasionally more c.c. of fluid is good treatment and frequently an aid to recovery. Cases of tubercular meningitis have been punctured repeatedly and recovery due to this procedure has been reported.

Cases of severe auto-intoxication, with cutaneous conditions, have been punctured and good results reported from the removal of ten to fifteen c.c. of the fluid. It seems hardly necessary to point out the role played by lumbar puncture in the treatment of cerebrospinal meningitis with the Flexner anti meningitis serum. In Volume I, page 670, of Hare's "Modern Treatment" (latest edition), this mode of treatment is well described.

Contraindications to lumbar puncture exist and must be thought of. Of these the danger of infection is one to be considered, yet this can be easily guarded against by careful aseptic technique. The most prominent contraindication is fortunately very rare. This is tumor in the posterior cranial fossa, especially of the cerebellum, and when such a condition is suspected, a lumbar puncture should not be made.

TECHNIQUE OF LUMBAR PUNCTURE.

The instruments necessary for lumbar puncture are several suitable needles, test tubes and centrifuge tubes graduated into centimeters. For adults in whom the depth of puncture will be in the neighborhood of six c.m., a needle ten or twelve c.m. in length with a lumen of one mm. is used. The ordinary aspirating needle of suitable length can be employed, although a needle made especially for lumbar puncture can be procured and is known as a lumbar puncture needle. In children, two c.m. depth is usually sufficient and a shorter needle can be employed. The test tubes, centrifuge tubes and needles are boiled for fifteen minutes and subsequently handled under aseptic precautions.

The patient is prepared by thoroughly cleaning the lumbar and sacral regions. The operator's hands are surgically cleaned. The most desirable position for puncture is the patient lying on his left side, with his spine thoroughly flexed. This can be ac-

complished by having an attendant place one arm about the patient's neck and the other in the bend of the knees, then drawing his arms together until the back is completely arched. The highest points on the crests of the ilia are taken as landmarks and an imaginary line drawn between these two points passes just above the spine of the fourth lumbar vertebra. The space immediately above the fourth lumbar spine is recognized as the upper limit of safety. Either this interspace or the one next below is chosen as the site of puncture. The interspace is felt for with the fingers of the left hand. The needle held in the right is introduced in the median line half way between the spines. Its direction is horizontally forward with a very slight inclination toward the head. If a bony obstruction is met, the needle had best be withdrawn and the puncture attempted in the next space below. Occasionally a so-called "dry tap" results. This may be due to an occlusion of the lumen, and the stylet which accompanies the needle is introduced to remove any possible obstruction. If, however, fluid still does not flow, in all probability the needle is not within the spinal canal. In experienced hands, the passage of the needle through the membranes of the cord can be readily felt. When the spinal canal is tapped, fluid will flow with varying rapidity. When the pressure is low, it will come drop by drop. In cases of high pressure, it may come in a stream. In any event it is collected in the graduated test tubes and when a sufficient amount has flowed the needle is rapidly withdrawn and it is good practice to gently massage the point of puncture in order to break up the continuity of the track made by the needle and consequently prevent as much as possible any further leaking of the fluid. The site of puncture is covered with sterile cotton and collodion and the patient is kept in bed at least twenty-four hours after the puncture.

The lateral position has a decided advantage over the sitting posture in that there is less pressure due to gravity and the removal of fluid is consequently more gradual. Disagreeable after-effects are rare, and largely dependent upon the amount of fluid withdrawn. Ordinarily, for diagnostic purposes, five c.c. or less is sufficient, and after-effects are practically absent. When more fluid is withdrawn, occasionally slight headaches are noticed from twelve to twenty-four hours after puncture. Exceptionally, the headaches are very severe and vomiting has also been described as an after-effect.

BERI-BERI.

This disease, although suspected, especially by the Japanese, to be one of nutri-

tional disorder or one due to toxemia, was looked upon by most medical writers as an acute infectious disease. A great deal of energy was spent in an effort to isolate the organism.

The suffering of the young and the robust as well as the debilitated, the distribution of the disease in definite foci, the prevalence and definite seasonal relationships, the occasional spread as an epidemic in some countries without any special change in the diet of the inhabitants, these are the grounds upon which Scheube believed the disease was due to a living bacterium.

Other Dutch physicians noted in the prisons of Java, that if rice was eaten completely shelled 1 prisoner in every 39 developed beri-beri, whereas, if it were eaten with the pericarp intact the disease was limited to 1 in 10,000. In the last year these observations have received experimental confirmation through the work of Foster and Aron, who showed that the polyneuritis could be induced in man as well as in fowls by feeding rice, the pericarp of which had been removed and that if unpolished rice be substituted for the pericarpless rice the patients and animals improved and recovered, except in those patients and animals in which the nerves suffered advanced degenerations.

The statistics of the Cullion Leper Colony, as given by Heiser, illustrate what prophylaxis has accomplished. The total number of deaths in this colony between February, 1909, and February, 1910, was 898, and of this number 309 were due to beri-beri. In February, 1910, the use of unpolished rice or rice containing the pericarp was made compulsory. The total number of deaths between February, 1910, and February, 1911, was 369, and of this number none were due to beri-beri.

In the Cullion Hospital at the end of January, 1910, there were about 50 patients suffering with beri-beri. At that time these patients received, mixed with milk and sugar, 15 gms. of rice polishings twice daily. Two cases in advanced stages of the disease died in a few days, the others improved and within two weeks left the hospital.

The work of Aron has established the fact that rice containing less than 0.4% of P_2O_5 must be regarded as polished and unsuitable as an article of diet. The amount of P_2O_5 in unpolished or slightly polished rice varies from 0.5 to 0.75%.

According to these observations the lack of phosphorized nitrogenous compounds are responsible for the disease and they place beri-beri in the category of nutritional disorders. They also tell us that beri-beri patients need not be quarantined.

**MEDICAL SOCIETY OF NORTH CAROLINA
FIFTY-EIGHTH ANNUAL SESSION,
JUNE 20-22.**

**Charlotte Extends Warm Welcome to
Physicians—Meeting Begins With
Fine Addresses.**

Under bright auspices and with every promise of a successful conclave, with hundreds of physicians from every section of the State in attendance, the fifty-eighth annual session of the Medical Society of North Carolina convened in Charlotte June 20th. From 10:55 in the morning when it was called to order in the Mecklenburg court room until the last of the different sections had adjourned for the day or the night, each hour was filled to overflowing with mental work, which demanded close attention. Undaunted by the summer weather or the ponderousness of the program, the men of medicine resolutely settled to their work of self-improvement. Mingled with this, of course, was the pleasure of social intercourse and meeting of old friends.

It was as representative a body of men as annually gathers anywhere in the State. The leaders in the ranks would have been recognized as doctors by the laity no matter how skilfully disguised. A number of ladies, wives and daughters of the delegates, accompanied them and attended the sessions. The opening exercises of the morning were followed by the reading of papers, and in the afternoon by the house of delegates, to transact society business. An enjoyable automobile ride in the late afternoon added to the pleasure of the first day's session.

At 10:55 Dr. E. C. Register called the Society to order. Dr. Register presented Rev. Dr. Gilbert T. Rowe, who opened the proceedings with an appropriate prayer. Then was presented Mayor Chas. A. Bland, who welcomed the visitors on behalf of the city.

Said he:

"In Bryant Park, New York City, stands a bronze statue of Dr. James Marion Sims, the great physician and surgeon, born in Lancaster county, South Carolina, and 'who passed to silent and pathetic dust in the metropolis of America.' This testimonial of appreciation of the achievements of an eminent member of the medical profession suggested the thought to my mind how few monuments have been raised to commemorate the benefit wrought humanity by the unremitting work of physicians. On their tombs there is no proclaiming statue to repeat to posterity the mysteries which genius seeks at his own cost. Balzac, in his novel of the 'Country Doctor,' draws a

beautiful picture of the good accomplished by conscientious physicians. I can recall men in this community, whose memories will conjure up thoughts of uncomplaining devotion to duty. Through storm and sunshine, night and day, the winter's cold and the summer's heat, they responded to the calls of the sick and distressed. The physician is not infrequently the confidential adviser of his patients. Shakespeare, in Macbeth, exclaims to the court doctor, "canst thou not minister to a mind diseased; pluck from the memory a rooted sorrow?" This shows that from time immemorial the doctor has been called upon not only to ease bodily suffering, but mental anguish as well.

"On me has been conferred the honor and pleasure of extending to the North Carolina Medical Society a cordial welcome to this city. May your short respite from cares and anxieties of practice bring you pleasure and profit, and may the work of this scientific body for the advancement of the medical profession and the betterment of humanity be crowned with success. I will not give you the keys of the city, for we have taken the gates off the hinges. The city is yours to command."

At the conclusion of Dr. Bland's address, Dr. Register presented Dr. J. P. Munroe, president of the North Carolina Medical College, to deliver the address of welcome on behalf of the Mecklenburg Medical Society. Dr. Munroe spoke at length and eloquently. After pleasant and highly complimentary reference to Mayor Bland, Dr. Munroe expressed the keen pleasure of Charlotte and the Charlotte doctors in having the visiting physicians here. Then he said:

"That we may acquire a better idea of its dignity and its place in the world, let us stand aside a little space and endeavor to get a panoramic view of the profession as a whole, its past, its present, its future, the shadows as they appear, the lights, as they flicker, the sunshine as it dazzles.

"The first thing I see is an ancient and honorable ancestry. Scientific medicine was born five centuries before the Christian era. Greece was the fostering mother. Hippocrates furnished the philosophic mind that moulded it and stamped upon it those characteristic features that have carried it through the storms and vicissitudes of the ages.

"The high moral ideas expressed in that most memorable of human documents, the 'Hippocratic oath,' contain the essentials of the golden rule of new Testament times and constitute the basis of the 'Principles of Medical Ethics' of this society.

"A second feature is the unity of this brotherhood. Unity of ambition to wrest from nature the secret stores of knowledge that tell us of the causes of disease and the means of their cure. Unity of purpose to appropriate this knowledge to prevent disease, relieve suffering and heal the sick.

"Again I see a profession that is progressive as well as conservative. Consider for a moment the other learned professions. The lawyer and jurist look backward for precedent on which to base today's decisions. The minister's work is based on principles and creeds that are essentially the same from age to age and no profane hand may alter or add to what has been revealed. But the physician regards precedent as valuable only so long as new facts and new experiments do not show a better way. While the moral and ethical standards must ever remain the same, the medical mind is always open to receive further knowledge and alert to discover new truths.

"And again I see a profession rich in its beneficent results, especially during the last century. Another has truly said that you may 'search the scriptures of human achievements and you cannot find anything to equal in beneficence the introduction of anesthesia, asepsis and sanitation with all that it includes.'

"Again I see as a conspicuous feature of the medical profession charity—that charity which vaunteth not itself, and is not puffed up, that charity which is kind and covereth a multitude of sins. Over every highway road and path, whether trodden by the humble country doctor or the most learned of the land, is written the word Charity. Yes, even on the breast of every worthy physician it is engraved and by this token he gains entrance into sacred recesses where angels fear to tread.

"I bow with reverential deference to those who are members of the sacred profession of the ministry, who devote their lives to the good of others. But even they are not admitted into the innermost lives of the people to the extent that the physician is. To the physician is laid bare the body with its infirmities, as well as its vigor, the soul with its vices as well as its virtues, the heart with its sorrows as well as its joys, the mind with its disappointments as well as its hopes.

"To him as to no other is lifted the veil that discloses the thoughts emotions and passions that make life bitter or sweet.

"To no other is given the same power to mould the character, guide the destiny and mark the way that leads to peace and happiness.

"Thrice honored are we of this city and county in being permitted to welcome the

men before me this morning the society you compose, the profession you adorn."

Exceptionally able was the response to the addresses of welcome, delivered by Dr. Edwin G. Moore, of Elm City, on behalf of the Medical Society of North Carolina. He said in part:

"I feel the consciousness of a personal unworthiness of the distinction which has been accorded me as a representative and spokesman for this association of North Carolina doctors," said he. "I assume the role under protest, meekly submissive to an enforced obedience to that Scriptural injunction which commands us, 'Bear ye one another's burdens.'

"I can formulate no words which will fitly convey my personal emotions, or express the sentiments and the pleasure of this society at the cordial reception which you have tendered us and the generous words of welcome with which you have greeted us. We esteem it an honor to be the guests of this city and this people; whose dauntless courage and whose matchless energy, pre-eminent and conspicuous in every department of your historic and industrial life, cannot fail to impart a gleam of inspiration to any convention, even though it be a plain and unvarnished congregation of medical men.

"I see that it is no mean thing to be a Charlottean doctor, nor is it a dangerous thing to be a visiting doctor in Charlotte, since you have permitted one of your own to speak in public and by special invitation have commissioned your chief executive to appear before us. Now if we could make safe with his executive clemency or by some lucky star could hoodoo your police, we would feel entirely safe. Perhaps I speak without authority, but I am inclined to tell the truth, that we are not mendicants, but we are human, and should our wandering feet press near where danger lies, or by some awkward speech we trip, and thereby make a blunder, or if mortal disposition be gulled by importuning friends to scent the aroma of luscious grapes distilled, and thereby hangs a tale—it may be joy, but can be woe; deal with us gently, sir, as your brother men, for we are a little short of cash and a long way from home. (Laughter).

"But today the true North Carolina spirit prevails and you have gathered here representatives of the medical profession from every portion of our Commonwealth; from cragged mountain peak to ocean's pebbled shore, from Old Dominion's favored kiss to Palmetto's gladsome, sunny smile, bidden by your courteous invitation, and welcomed by your generous hospitality to dwell with

you in peace and unity for a season. We wish to assure you that we have left our battering-ram, our battle-axe, our personal vendettas and bad tempers at home; and whatever of good there is in us we tender through this convention as a pious offering to Charlotte, and whatever of virtue and beauty, or of courage and character we may behold in you, the memory of it we shall take back with us to enrich and to ennoble our faith and our hope. This is not the occasion nor is my mission to review with measured sentence the record of your historic past, or with prophetic foresight unfold to you the possibilities of the blessed assurance of greater things yet to be.

"Lord Cornwallis with a cynical sneer characterized you as a hornets' nest, but since his day you have evolved into a beehive of commercial and domestic workers, extracting the hidden secret from plant and flower, and distilling its sweetness in the richness of your industries and the virtue of your homes. To you belongs the distinction of having struck the first blow that wrested from the hand of tyranny and oppression the triumphant victory of liberty and freedom. Your Declaration of Independence is a profound and historic fact, a priceless legacy carved out of the rugged spirit and baptized with the consecration of your heroic forefathers. Immortal be their glory and imperishable be your history that will perpetuate forever the patriotism that inspired and the heroism that dared. But patriotic as your ancestry may have been and renowned as your history and traditions may be, you have not been content to rest your laurels there. Inspired by faith, imbued with courage, with confidence in man and trust in God, you have moved in your silent might, overcoming every obstacle to progress, and have given as an object lesson to this generation a city of material wealth and of material worth, a product of the genius of mind and the genius of effort.

"As a loving mother would entwine her arms about her tender child and press it fondly to her heart, so North Carolina, with glad affection and open arms embraces in loving care her queenly daughter, the pride of Mecklenburg, our Charlotte. (Applause).

"I heard a voice from the mountain-top and it swept with the winds over the plains and it ran with the waters to the sea; it waved with the foliage of drunken forest, and it warbled with the song of birds; it kissed the blushing tints of perfumed flowers and wafted its odorous breath in gentle breeze and balmy air; gleeful children, listening, caught its accents and men and women, above the hum of machinery and sound of music, heard the message of the

voice as it proclaimed 'Watch Charlotte Grow!'

"It matters not whether at noonday or at midnight, in summer's heat or winter's chill, amid the busy throng of your crowded streets or along your broad highways of macadam thoroughfares that binds the ties and cements the common interests of urban and rural life alike, will still be found testimonials of new life and evidences that the growing process still continues. Can lawyer or doctor, minister or merchant, banker or manufacturer, or business man of any kind claim for his responsibility these results? And is it not your virile and devoted citizenship working harmoniously together for the moral and physical uplift of the community that has brought these things to pass?"

Appreciating the brilliance of medicine's recent past, Dr. Moore was yet more optimistic of its future. A thousand things have been learned. Ten thousand will yet be known. From the darkness of the unknown we are entering the breaking light of a new dawn, and a new day, whose rising sun will shed the genial warmth of a better knowledge and whose splendor of noonday will be the glorious conquest of sanitary science and preventive medicine.

After Dr. Moore's address Dr. Register then introduced the President, Dr. C. M. Van Poole, of Salisbury, who proceeded to deliver the annual address, having selected for his subject "The Need of Literary Training for the Doctors of the Future." It was a careful and thoughtful presentation of this question. Dr. Van Poole declared that the relation between physician and public is constantly changed and that the responsibility of the doctor is ever on the increase. Before long members of the profession will be called to high places as advisers to governments and as leaders in hygienic reform. No equipment can be too good for effective service in such fields. The doctor is called upon to make diagnoses, so that he may know what he is about. Underneath the superficial facts he must search by logical processes of thought for the eternal basic principles which may be used as a rule of conduct. The educated man has a nucleus about which he may group his discoveries and from which he may proceed from the known to the unknown. He must be a student of human nature, with which he is to deal, in effecting cures.

On the other side of the Atlantic, said Dr. Van Poole, the emphasis has been chiefly laid on postgraduate training, while on this side chief attention has been given to undergraduate work. The attention given to the

training of physicians by the government in such countries as Germany is much greater than in this country, where the creation and maintaining of standards has been chiefly left to the profession. By diligent attention to undergraduate work America may be able to cope with the brethren across the sea.

He referred to the work which is in progress in this State. The fight which is being made on the hookworm in North Carolina is unapproached anywhere in the history of the profession. The war on tuberculosis has been warmly waged. There are now 600 cities and towns engaged in this work in the United States, and it is being carried on through 1,500 agencies. There are 420 tuberculosis sanatoriums, 342 special dispensaries, 68 open air schools, 511 anti-tuberculosis associations, and 98 hospitals for the insane have made special arrangements for the tuberculous of their inmates. The North Carolina General Assembly did not give the doctors all they asked for, but a great forward stride was taken and much good will result.

Tuesday afternoon, June 20th, Wednesday, June 21st, and Thursday, June 22nd, was devoted, in the general meeting, to the reading and discussions of the various papers, and in a general way the program, which has already appeared in the Journal, was carried out. This occupied the entire time of the session.

THE SURGICAL SECTION.

On Wednesday, June 21st, the entire day was taken up in the surgical section of the association in reading and discussing papers on surgical subjects.

The following are some of the papers which were the most thoroughly discussed in the surgical section:

Backache From a Surgical Standpoint—Dr. J. M. Parrott, Kinston.

Surgical Treatment of Acute and Chronic Pancreatitis with Report of Case—Dr. R. L. Gibbon, Charlotte.

Surgery of the Gall Bladder—Dr. Henry Norris, Rutherfordton.

Report of a Case of Raynaud's Disease—Dr. Annie L. Alexander, Charlotte.

Some Important Points in Diagnosis and Treatment in Diseases of Bones—Dr. J. A. Williams, Greensboro.

The Matter of Enemata in Surgical Cases—Dr. R. L. Payne, Norfolk, Va.

A New Instrument for Gastroenterostomy and Its Practical Application—Dr. Addison G. Brenizer, Charlotte.

Nitrous Oxid-Oxygen Anesthesia—Dr. J. H. Culpeper, Norfolk, Va.

THE HOUSE OF DELEGATES.

Tuesday afternoon, June 20th, at 3:30

o'clock, the House of Delegates was called to order by Dr. C. M. Van Poole. The usual order of business was followed.

With only one or two exceptions, each district in the State was represented by the councillor of that district. Their reports indicated that the County Medical Societies in the different sections of the State are in a prosperous condition. It was regrettable, however, that several of the councillors exhibited evidence that they had not visited their different county societies as often as the rules of the society provides.

A councillor, if he does his duty, should visit each county society in his district at least once a year. He should have the name of every member of each society in his district properly indexed, and should have the names and addresses of each reputable physician in each county, who are not members of their local county societies. The greater part of his work should be among this class of physicians. Efforts along these lines would do a great deal more good than the present methods, and would soon bring the State Society's membership back to where it was a few years ago.

The House of Delegates named the following physicians on the nominating committee: Dr. W. H. Ward, first district; Dr. K. P. B. Bonner, Morehead City, second district; none from the third district; Dr. E. T. Dickson, of Wilson, fourth district; Dr. J. P. Monroe, of Sanford, fifth district; Dr. Albert Anderson, of Raleigh, sixth district; Dr. T. F. Misenheimer, of Morven, seventh district; Dr. J. M. Turner, of North Wilkesboro, eighth district; Dr. Thomas E. Anderson, of Statesville, ninth district; Dr. J. Howell Way, of Waynesville, tenth district.

The House of Delegates adjourned to meet the following day, Wednesday, at ten o'clock.

The nominating committee met at the Selwyn Hotel at 8:30 p. m., June 20th, and after a prolonged and careful consideration of the work, they nominated the following officers and committees which were acceptable to the House of Delegates, which convened on the following morning to receive the report:

President—Dr. A. A. Kent, of Lenoir.

First vice-president—Dr. J. P. Munroe, of Charlotte.

Second vice-president—Dr. W. P. Ilorton, of North Wilkesboro.

Third vice-president—Dr. J. G. Murphy, of Wilmington.

Essayist—Dr. R. N. Duffey, of Newbern.

Orator—Dr. John H. Tucker, of Charlotte.

Leader of Debate—Dr. M. E. Street, of Glendon.

COMMITTEES.

Legislative and public policy committee—Drs. R. H. Lewis, of Raleigh, G. G. Thomas, of Wilmington, and L. B. McBrayer, of Asheville.

Scientific work—Drs. L. B. Newell, of Charlotte, J. J. Phillips, of Tarboro, J. S. Harlan, of Elm City.

Finance—Drs. H. D. Stewart, of Monroe, H. M. S. Cason, of Edenton, C. O. Abernethy, of Raleigh.

Obituaries—Drs. A. W. Knox, of Raleigh, E. G. Moore, of Elm City, M. L. Stearns, of Asheville.

Delegates to South Carolina Medical Association—Drs. L. D. Wharton, of Smithfield, Albert Anderson, of Raleigh, J. P. Munroe, of Charlotte.

Delegates to Virginia Medical Society—Drs. J. W. Long, of Greensboro, M. Bolton, of Rich Square, and F. M. Register, of Tillery.

Hendersonville was chosen for the place for the next annual convention by the House of Delegates.

CONJOINT SESSION OF THE STATE BOARD OF HEALTH.

At twelve o'clock on Wednesday, June the 21st, Dr. G. G. Thomas, President of the State Board of Health, called the conjoint session to order with Dr. W. S. Rankin acting as Secretary.

The first business that came before the session was the election of two members to succeed Drs. G. G. Thomas, of Wilmington, and T. E. Anderson, of Statesville. These two members terms of office expired with the opening of this session.

The selection of these two officials created some little interest. After the meeting was called to order Dr. Chas. O'Hagan Laughinghouse, of Greenville, was recognized. The Doctor put in nomination Dr. G. G. Thomas to succeed himself. Dr. Laughinghouse made a beautiful speech, which was applauded from time to time, distinctly demonstrating Dr. Thomas' great popularity among the members. Dr. Thomas' nomination was seconded by Dr. Thos. L. Booth, of Oxford, a former President of the State Medical Society. Drs. K. P. B. Bonner, of Morehead City, J. T. Attmore, of Paullico county, and A. J. Noble, of Selma, also made beautiful references to Dr. Thomas, and were applauded repeatedly.

The next gentleman recognized by the President, Dr. Thomas, was Dr. L. B. McBrayer, of Asheville. He made a very beautiful speech. He referred to Dr. Thomas frequently and always in the most beauti-

ful and complimentary terms. At the same time he had in view placing in nomination Dr. Chas. O'H. Laughinghouse, of Greenville. Dr. McBrayer's references to Dr. Laughinghouse were frequently applauded and evidently well received.

Dr. I. W. Faison, of Charlotte, in proper language, forcibly seconded the nomination of Dr. Laughinghouse. Dr. Laughinghouse was then recognized the second time. He expressed his appreciation of the honor his brethren wished to bestow upon him. He felt, however, that the man should be chosen upon his merits, without regard to consideration of sentiment or ties of friendship. The heartiest and most spontaneous burst of applause which has been heard in the Mecklenburg county court house for many years greeted this manly, straight-forward sentiment of Dr. Laughinghouse's.

Dr. D. T. Tayloe, of Washington, was the next gentleman recognized. He placed in nomination Dr. T. E. Anderson, of Statesville, to succeed himself. This nomination was seconded by Drs. C. A. Julian, of Thomasville, and M. R. Adams, of Statesville. Dr. J. M. Parrott, of Kinston, arose and endorsed the nominations of Drs. Thomas and Anderson, and Dr. H. D. Stewart, of Monroe, endorsed the nominations of Drs. Thomas and Laughinghouse.

There being no further names, the chair appointed Drs. A. S. Ross, of Fayetteville, J. M. Parrott, of Kinston, and R. L. Young, of Concord, as tellers. The tabulated vote stood as follows: Dr. Laughinghouse 171; Dr. Anderson 145; Dr. Thomas 119. Dr. R. L. Wharton, of Selma, moved that Drs. Anderson and Laughinghouse be declared elected. This was opposed by Dr. I. M. Taylor, of Morganton, but the motion prevailed by the majority, and Drs. Anderson and Laughinghouse were formally declared members of the State Board of Health.

At a meeting of the State Board of Health held at the Selwyn Hotel on the afternoon of June 21st Dr. J. Howell Way, of Waynesville, was elected President of that body vice Dr. G. G. Thomas, of Wilmington, whose term of office had expired.

After the announcement of the election of Drs. Laughinghouse and Anderson to the State Board of Health the conjoint session adjourned until 2:30 p. m., when it convened to hear the annual report of the Secretary and the assistant Secretaries.

At the afternoon session Dr. W. S. Rankin, Secretary of the State Board of Health, gave his annual report, a part of which follows:

Dr. W. S. Rankin began an admirable report of the year's progress in public health

matters by calling attention to 14,000 deaths in this State during the past twelve months from preventable diseases. He compared them to a city as large as Greensboro inhabited by the needlessly dead. He believed that the broken hearts and crushed hopes thus produced would bring about a deeper interest in public health matters and adjured his hearers to see to it that these 14,000 lives should not be allowed to be sacrificed in vain.

It is not, Dr. Rankin declared, because people do not trust the medical profession that this tremendous toll has been levied by the grim reaper, but simply because they are ignorant of the fundamental principles of sanitation and prophylaxis. He cited the case of a hamlet in the eastern portion of the State, containing 300 inhabitants, which had 30 cases of typhoid fever within 60 days. He declared that sanitary instruction was a much more pressing need than sanitary legislation, important as the latter is.

Dr. Rankin reported that the mailing list of the bulletin of the State Board of Health has reached 20,000 and is constantly growing. The Legislature of 1911 had increased the public appropriation for health—exclusive of printing—120 per cent. and it now stands at \$26,000. In regard to the question of quarantine a great step in advance had been made, in that control of the matter which was formerly in the hands of the local authorities has been transferred to the State Board of Health. Half-way enforcement of quarantine measures was declared nothing more nor less than a death-trap and Dr. Rankin congratulated the State and the profession upon this change.

There are now four diseases which are quarantinable in North Carolina, namely, whooping-cough, diphtheria, measles and scarlet fever, and five which are reportable, to the four just enumerated there being added smallpox. With regard to the removal of quarantine from the latter which has been discussed so widely, Dr. Rankin declared it as his unalterable belief that if this had not been done the public health work would have suffered great detriment. Quarantine for smallpox in his view was absolutely a barrier to the thorough vaccination of any community. It contributes through being poorly enforced to the perpetuation of the scourge. It offers a poor and partial protection and prevents the adopting of a sure and safe one and in a word is totally antagonistic to the advance of public health matters.

With regard to the work of his assistant Secretaries Dr. Rankin was enthusiastic. The North Carolina hygienic laboratory under the direction of Dr. C. A. Shore has

done more work than any other similar laboratory in the South. The campaign for the eradication of the hookworm disease, in charge of Dr. John A. Ferrell, is in excellent shape. Dr. C. A. Julian's fight against tuberculosis is in a most promising condition. Dr. Rankin's report was accorded the closest attention and was received with great applause. It was received and formally approved by vote of the conjoint session.

Immediately thereafter the assistant Secretaries just mentioned made lucid reports of the conditions obtaining in their respective fields of work. Dr. Thomas, from the chair, complimented Dr. Shore in particular for the splendid efficiency of his laboratory. It may be noted that the Pasteur treatment under Dr. Shore's direction has been splendidly successful. The average obtaining in other similar establishments is about one death to every 250 treatments; at the Raleigh institute 480 cases have been treated without a single fatality. At the conclusion of these reports Dr. C. W. Stiles, scientific secretary of the Rockefeller commission, was recognized with an ovation of applause. Dr. Stiles called attention to the absolute necessity of attracting more hearty support to the "man on the firing line"—in other words to the various local health officers. In their hands he declared was the future of the cause of public health and upon them hung the brunt of the fight must fall. Dr. Chas. O'H. Laughinghouse, of Greenville, proposed a resolution endorsing the lines adopted in the hook-worm campaign and those which were proposed. This resolution was adopted enthusiastically without an objecting voice.

After Dr. Rankin's report the conjoint session took into consideration resolutions which were presented by a committee consisting of Dr. L. B. McBrayer, of Asheville; Dr. L. N. Glenn, of Gastonia, and Dr. W. L. McPhail, of Lumberton.

Dr. C. A. Julian, of Thomasville, presented the following resolution, which was adopted:

Resolved: That the county superintendent of health in each county call the attention of the county commissioners to the needs of hospital facilities for indigent consumptives and secure appropriations for suitable hospital rooms in connection with the county homes.

During this meeting the following valuable papers were read and discussed, dealing with hook-worm disease in North Carolina:

The Importance of Mild Cases of Hook-worm Diseases—Dr. B. W. Page, Raleigh.
The Effects of Sanitation on Hook-worm Infection—Dr. C. L. Pridgen, Raleigh.

Hook-worm Disease in Its Relation to the White and Negro Races—Dr. C. F. Strosnider, Raleigh.

The Significance of Hookworm Disease—Dr. C. S. Grayson, High Point.

Throughout the day many interesting papers were presented to the physicians in attendance on the general session and in the section upon surgery as well. In the former among the most valuable were the following:

Intestinal Tuberculosis—Dr. Samuel C. Gantt, New York.

Determination of the Renal Function by Means of Phenosulphonephthalin and Its Value in the Diagnosis and Prognosis of Kidney Affections—Dr. John T. Geraghty, Baltimore, Md.

The Relation of the Doctor to Public Health as Regards Tuberculosis—Dr. Thos. M. Jordan, Raleigh.

Possibilities of Preventive Medicine—Dr. W. J. McAnally, High Point.

The Duty of the Physician to the County and State Medical Society—Dr. H. D. Walker, Elizabeth City.

MEDICAL EXAMINING BOARD.

The Medical Examining Board of the State of North Carolina convened at O'Donahue Hall, Charlotte, N. C., June 14th. The following members of the Board were present: Dr. L. B. McBrayer, Asheville, President; Dr. B. K. Hays, Oxford, Secretary; Dr. H. H. Dodson, Greensboro; Dr. John Bynum, Winston-Salem; Dr. J. L. Nicholson, Richlands; Dr. W. W. McKenzie, Salisbury; Dr. J. C. Rodman, Washington.

There were about a hundred and thirty applicants for license. The following passed successfully their examinations and received license:

John H. Adcock, New York; N. H. Andrews, Bine; J. E. Anthony, Gastonia; Thomas B. Ayers, Rowland; M. L. Barefoot, Dunn; A. C. Brenizer, Charlotte; J. C. Bagley, Fayetteville; B. S. Bazemore, Windsor; S. B. Boon, Jackson; E. S. Bullock, Wilmington; J. W. Bradshaw, Relief; B. F. Clinton, Butler; T. W. Blanchard, Gliden; V. M. Bowers, Thomasville; E. B. Beasley, Colerain; J. E. T. Carter, Wards Hill; J. M. Cutchins, Whitaker; G. S. Cox, Dothan; V. F. Crouch, Jennings; B. D. Canghman, Columbia, S. C.; M. P. Cummings, Reidsville; T. W. Carmichael, Rowland; L. T. Delaney, Raleigh; E. L. Dameron, Bessemer City; C. J. Ellen, Battleboro; L. D. Floyd, Green Sea, S. C.; T. B. Gold, Lattimore; John H. Gambol, Crumpler; B. H. Hackney, Bynum; J. R. Hawkins, Oxford; M. C. Horton, Brooklyn; S. S. Hutchison, Mount Gilead; W. B. Hunter, Gastonia;

Harty Harrison, Statesville; William T. Head, Melvin Hill; S. J. Hawes, Atkinson; H. B. Ivey, La Grange; W. L. Jackson, Greensboro; William P. Jackson, Windsor; Lee Johnson, Asheville; William P. Jacobs, Philadelphia; E. J. Judd, New Hill; T. C. Kerns, Salisbury; C. E. Kernodle, Altamaha; O. R. Keiger, Tobaccoville; P. H. Lee, Union Springs, Ala.; Oren Moore, Charlotte; T. C. Miller, Statesville; R. A. Moore, Rural Hall; A. A. Mendez, Brooklyn, N. Y.; A. D. Morgan, Mooresville; A. H. Myers, North Wilkesboro; N. D. McMillan, Red Springs; A. W. McMurray; A. W. McClinton, Winston-Salem; J. S. Norman, Bladenboro; G. F. Naff, Hunt-dale; H. H. Powell, Auburn; W. I. Pitts, Tarboro; J. DeB. Pemberton, Fayetteville; T. E. Person, Fremont; R. L. Payne, Monroe; F. O. Plunkett, Greensboro; John A. Patterson, Shelby; M. C. Palmer, Tryon; S. S. Quittner, New York; J. G. Raby, Ahsokie; A. S. Root, Raleigh; J. L. Ranson, Charlotte; J. F. Riter, Fontana; J. Milton Russell, Canton; J. T. Ramsey, Newell; W. T. Speas, Cana; R. E. Stack, Bakersville; J. W. Squires, Charlotte; Coliu Shaw, Mayesville; C. W. Scott, Washington, D. C.; George W. Shipp, Newton; William N. Thomas, Oxford; H. L. Timmons, Fayetteville; N. P. Liles, Wadesboro; C. M. Trippe, Charlotte; B. G. Taylor, Stanley; R. L. Warren, Dunn; J. B. Whittington, East Bend; T. G. Whimes, Lasker; R. F. Warren, Hurdle Mill; C. E. Waller, Cherokee; C. C. Whittle, Greensboro; F. C. Whittaker, Enfield; L. K. Walker, Currie; William E. Wishart, Charlotte; J. G. Wilkins, Burlington; N. V. Yorkeley, Lexington.

The questions asked by the different members of the Board were as follows:

SURGERY.

L. B. McBrayer, M. D., Asheville, N. C.

1. Cholelithiasis: (a) What is it? (b) give one or two of the most important ingredients; (c) name one or two bacilli most commonly found; (d) after what disease is it most common; (e) name or two routes of infection; (f) give three or four of the most common symptoms; (g) suggest treatment.

2. Organic Stricture Male Urethra: (a) Define it; (b) what disease is its most frequent cause? (c) describe role of cicatricial tissue in; (d) what effect does alcohol have? (e) how would you make diagnosis? (f) give treatment briefly.

3. Epistaxis: (a) What is it? (b) what general diseases sometimes cause it and after what age? (c) give treatment briefly.

4. Potts Disease: (a) What is it? (b) why the name? (c) what particular bacillus is the cause and how does it reach the point?

(d) in abscess of the last two dorsal or lumbar vertebrae where does the abscess point and why? (e) what is the central idea of treatment aside from dietetic and hygienic?

5. (a) In infection with suppuration beneath the deep palmar fascia where would the pus point and why? (b) in incising an abscess as (a) where would you make your incision? (c) what important artery is it wise to avoid, and (d) what is the landmark in avoiding this artery?

6. (a) What is volvulus? (b) state specifically what part of anatomy usually involved; (c) what is intussusception? (d) state specifically what part of anatomy usually involved; (e) what is the intussusciens? (f) what is the intussusceptum? (g) name two or three prominent symptoms of obstruction of the bowel; (h) when is the proper time to operate in such cases, and (i) what is the prognosis in operation after 48 hours?

4. Hypertrophied Prostate Gland: (a) What is first symptom? (b) name different structures of gland that may be involved; (c) at what age does it usually occur? (d) what condition makes operation imperative? (e) describe operation for perineal prostatectomy.

8. Thyroidectomy: (a) In this operation what two important structures is it wise to avoid? (b) give rule for avoiding them; (c) after operation should tetany occur what important structures would you consider you had removed and what treatment would you give? (d) if post-operative myxoedema should occur what treatment would you give? (e) What is the cause of cretinism and what is the treatment?

PHYSIOLOGY AND HYGIENE.

Benj. K. Hays, M. D., Oxford, N. C.

1. Give average daily secretion and chemical reaction of the following, stating cause of reaction. When enzymes are present name them: Saliva; gastric juice; pancreatic juice; bile; urine; sweat.

2. What is the process called when blood becomes laked? Name two general classes of white blood corpuscles. What is temporary increase of white blood corpuscles called? When white blood corpuscles destroy pathogenic bacteria what is the process called?

3. In what form do carbohydrates reach the liver. From what structure is bile pigment formed (be specific). Name two substances (not bile) formed in liver. Name two substances in bile that are excretions.

4. Name the diseases which are thought to be the result of, or are in some way associated with, defective metabolism of the following organs: Thyroid gland. (a) When excessive. (b) When deficient. (c)

Parathyroids. (d) Supra renal capsule. (e) Islands of Langerhans. (f) Pituitary body.

5. Name the substance found in excess in cows milk that renders it difficult for infants to digest. To what general class of food stuffs does this substance belong? What other substances found in milk belong to this class?

6. What is the condition of an eye called when the vision (refraction) is: Normal? Senile? Near sighted? Far sighted? When refraction is different in different meridians? When eyes tire from over use, state what organ is the chief sufferer from fatigue?

7. When colon bacilli are found in water what do they indicate?

8. Give number of cubic feet required per individual (a) in sleeping apartments? (b) in sitting apartments? (c) how often must the air be renewed?

ANATOMY.

Dr. W. W. McKenzie, Salisbury, N. C.

1. Describe the sympathetic nerve, naming and locating the principal ganglia.

2. Describe the thyroid gland.

3. Give origin, course and branches of brachial artery.

4. Name the articulations of the occipital bone.

6. Describe the sternum, its articulation and the important muscles attached to it.

6. Give the gross and the topographic anatomy of the pancreas.

7. What histologic changes occur in acute simple inflammation?

8. Describe hypertrophy and give its etiology and pathologic anatomy.

9. In the anatomy of the brain what is the corpus collosum? Describe its connections.

10. Describe the crystalline lens, and state what tissues are in contact with it and how. Answer only eight questions.

CHEMISTRY AND DISEASES OF CHILDREN.

J. L. Nicholson, M. D., Richlands, N. C.

1. Give not fewer than five each of the verbal prefixes and affixes, as applied to chemical compounds, explaining their significance and giving examples of their use.

2. Present a process for the manufacture of acetanilid and state its properties and physiologic action as well as its toxicologic effect upon the organism.

3. Discuss the halogen derivatives of methane, presenting (1) their names and formulas, (2) their general properties or characteristics, (3) their value as therapeutic agents.

4. Enumerate the predominating inorganic constituents of muscles, and offer an

explanation of the change from an amphoteric reaction during inactivity to an acid reaction during exercise.

5. Define synthesis, and cite several synthetic processes that take place in normal metabolism.

6. How would you distinguish between serum albumen that may be found in urine and other coagulable proteins.

7. Discuss the acetone bodies; setting forth (1) their names and probable source or sources, (2) abnormal conditions under which they may appear, (3) the evidence of their presence and (4) the necessary steps to their elimination and prevention.

8. State the characteristics of the infant stool; (1) in health, (2) in acute intestinal indigestion, (3) in acute ileo colitis.

9. State the principal causes, both predisposing and exciting of acute convulsions in infancy.

10. Discuss the rationale of the present methods of artificial infant feeding.

Answer 8 questions.

PRACTICE OF MEDICINE.

II. H. Dodson, M. D., Greensboro, N. C.

1. Differentiate between pericarditis with effusion and pleurisy with effusion.

2. How would you differentiate general edema of cardiac incompetency from that of portal obstructions?

3. How would you distinguish mitral insufficiency from functional systolic murmurs?

4. Differentiate multiple neuritis (pseudo tabes) and locomotor ataxia.

5. (a) Give normal blood pressure in man, woman and child. (b) State in what conditions high blood pressure alone may lead to an early diagnosis.

6. Give laboratory and clinical findings in remittent malarial fever (aestivo autumnal) and typhoid fever in first week.

7. (a) Define dysentery. (b) Name the varieties, etiologically.

8. Differentiate between the pains of hepatic, renal and lead colic.

9. (a) What is the immediate and remote effects of hyperchlorhydria on starch digestion? (b) What effect would acidity of the stomach have on starch digestion?

10. How would you distinguish hysterical paralysis from organic paralysis?

OBSTETRICS AND GYNECOLOGY.

Dr. John C. Rodman, Washington, N. C.

1. Describe the uterus and appendages (ovaries and fallopian tubes).

2. Name the varieties of presentation of the fetus, and possible positions of each.

3. What are the causes of abortion? Describe your treatment of a septic, incomplete abortion (retained placenta), third

month.

4. What is "Phlegmasia Alba Dolens?" Cause, treatment and prognosis?

5. Define dystocia. Name the anomalies of (a) expellent forces, (b) passages, (c) foetus.

6. Describe the mechanism of labor in a R. O. P. presentation.

7. What precautions would you take, in regard to the foetus, in a breech presentation, and why?

8. Give the causes of hemorrhage in a non-pregnant uterus, and the treatment of each.

MATERIA MEDICA AND THERAPEUTICS.

John Bynum, M. D., Winston-Salem, N. C.

1. How does empirical differ from rational therapeutics and which is the more scientific?

2. Name drugs that exercise a selective action upon (a) the uterus (b) the pupil (1) as dilators (2) as constrictors (c) the arterioles (d) the kidneys (e) the skin.

5. Discuss (a) the relative merits of chloroform and ether as general anesthetics (b) and state the signs indicative of danger in their use.

4. Define alkaloids and state why they have less therapeutic and toxic effects upon the organism when administered by mouth rather than hypodermically.

5. State (a) the physiologic action of hyoscin (b) its physiologic antedote.

6. What symptoms are produced by toxic doses of the following drugs: Strychnine, morphine, atropin, carbolic acid and acetanilid. Give antedote for each.

7. Compare the physiologic action of digitalis with that of strophanthus.

8. Give the source, physiologic action and therapeutic uses of castor oil, ergot, calomel, quinine and bismuth respectfully.

9. State the name and dose of two drugs belonging to each of the following classes: Peristalsics, silagogues, sudorifics, taenicides, galatogogues.

10. Describe the technic of hypodermoclysis and indicate the circumstances under which it is of service as a therapeutic agent.

The Secretary, Dr. B. K. Hays, of Oxford, will subsequently give the Journal a more detailed report of the proceedings of this Board.

THE NORTH CAROLINA PUBLIC HEALTH ASSOCIATION.

On Monday night, June the 19th, in the amphitheatre of the North Carolina Medical College, at a meeting which was largely attended, this new organization was launched. Dr. R. H. Lewis, of Raleigh, presided over the meeting.

Those present were unanimously in favor of such an organization. After a few remarks, the chairman was directed to appoint a committee of five to frame the constitution and by-laws and report at the morning session on June the 20th. The chairman appointed Drs. Geo. W. Long, of Graham, Archibald Bradshaw, of Roxboro, and William Jordan, of Fayetteville. Drs. Lewis and Rankin as ex-officio members.

Those present and interested seemed to be unanimously in favor that the name be the North Carolina Public Health Association, and that all persons officially connected with the health departments of counties or cities of the State shall be ex-officio members. Any other persons interested in this work may become members.

A small membership fee was recommended. Dr. R. H. Lewis spoke on the advantages of the organization. It was an admirable discussion of the subject, happily phrased, and full of thought. Dr. Lewis showed the effect such an organization should have in stimulating effort among health officers in the various portions of the State in magnifying and dignifying the office and impressing its importance upon the public.

The quarantine question was thoroughly discussed by Drs. H. D. Stewart, of Monroe, and I. W. Faison, of Charlotte, and others.

DISTINGUISHED PHYSICIANS AS VISITORS.

Among the distinguished physicians and surgeons, outside of the State, in attendance at this meeting were: Drs. H. R. Black, of Spartanburg, S. C.; J. H. Culpepper, of Norfolk, Va.; J. S. Horsley, of Richmond, Va.; A. M. Willis, of Richmond, Va.; Jno. T. Gregory, of Baltimore, Md.; C. W. Stiles, of Washington, D. C.; J. N. Upshur, of Richmond, Va.; J. A. White, of Richmond, Virginia.

The social features of the meeting were apparently very enjoyable. On Tuesday afternoon, from six to seven-thirty o'clock, the visiting physicians were taken in automobiles through the different sections of the city. Many of them got a glimpse of the famous macadam roads of Mecklenburg county. Wednesday evening from nine-thirty to eleven-thirty the general reception was given at the Manufacturer's Club. Eight hundred or a thousand people attended the reception.

NOTE: The editor of this journal is indebted to the Charlotte Observer for a great deal of the data regarding this meeting.

Florida State Medical Association.

At the thirty-eighth annual session of this society officers for the ensuing year were elected as follows: President, Dr. A. H.

Freeman, of Starke, Vice-presidents, Dr. J. B. Bennett, of Crystal River, and Dr. N. A. Bartzell, of Marianna; Secretary and Treasurer, Dr. J. D. Fernandez, of Jacksonville. Tampa was selected as the place for the next meeting in May, 1912.

The South Carolina Medical College.

The Charleston City Council has granted to the Medical College of South Carolina a fee simple to Lucas Park, which is city property, on which to erect a new building for the college. The structure is to cost not less than \$75,000 and must be completed within three years. The college will graduate forty-nine students in medicine this year and nineteen in pharmacy.

Louisiana State Medical Association.

At the last annual meeting of this society held at Shreveport the following officers were elected for the ensuing year: President, Dr. R. O. Simmons, Alexandria; Vice-presidents, Dr. J. C. Willis, Shreveport; Dr. B. A. Ledbetter, New Orleans; Dr. Otis Edgerton, Arcadia; Secretary, Dr. Joseph W. Martin, New Orleans; Treasurer, Dr. C. C. Bass, New Orleans.

Book Notices.

Principles of Public Health. A Simple Text Book on Hygiene, Presenting the Principles Fundamental to the Conservation of Individual and Community Health. By Thos. D. Tuttle, B. S., M. D., Secretary and Executive Officer of the State Board of Health of Montana. Yonkers-on-Hudson, New York. World Book Company. 1910.

This is a small volume, yet it contains much useful information, which is so clearly expressed that a child can understand it. The book is divided into two parts. Part I. The Fight for Health; Part II, The Enemies of Health.

The illustrations given in this little volume are very simple, and very instructive to the reader.

There are 186 pages of reading matter in the book, and we feel confident that it will be found of great benefit to every one who will read it.

Oxford Medical Publications. Introduction to Practical Organic Chemistry, including Qualitative and Quantitative Analysis and Preparations, with a Special Appendix on the London University Syllabus, and Schemes of Analysis for Stages 1 and 2 of the Board of Education Syllabus. By A. M. Kellas, B.S., (London), Ph. D., (Heidelberg); Lecturer on Chem-

istry at the Middlesex Hospital Medical School; Formerly Examiner in Chemistry to the Conjoint Board of the Royal Colleges of Physicians and Surgeons, London. Henry Frowele. Oxford University Press. Hadder & Stroughton, Warwick Square, London, E. C. 1910.

The author of this little volume has endeavored to make his book as systematic and useful as possible for each portion of the subject. The preparations follow the order in which they are discussed. In studying the theoretical part of the subject the general relations are indicated as clearly as possible so that the student may grasp the principles of the science.

The volume is very attractive in appearance, and contains much that is useful to both professor and student. It gives us a great deal of pleasure to recommend a book so unique in its every phase as this one is.

The illustrations are very fine indeed, and seem to be very fittingly inserted.

Transactions of the Sixteenth Annual Meeting of the American Laryngological, Rhinological and Otological Society held in Washington, D. C., April 28th and 30th, 1910. Published by the Society, 1910.

This volume of transactions, containing many very valuable articles, is nicely bound, and the general appearance of the book is quite attractive.

President McKernon's address is both interesting and instructive. Among the many other valuable papers presented was the one by Dr. James Kerr Love entitled, "The Deaf Child from the Viewpoint of the Physician and of the Teacher." The discussion connected with this paper is also very interesting.

Another paper that we would here call attention to is the one entitled, "The Effect of Maxillary Readjustment Upon the Development of Nasal Chambers and Face," by Dr. Geo. V. I. Brown, of Milwaukee, Wis. There are several very interesting illustrations connected with this article.

Diseases of Children for Nurses. Including Infant Feeding, Therapeutic Measures Employed in Childhood, Treatment for Emergencies, Prophylaxis, Hygiene and Nursing. By Robert S. McCombs, M. D., Assistant Physician to the Dispensary and Instructor of Nurses at the Children's Hospital of Philadelphia. Second Edition Revised. Octavo of 470 pages, illustrated. Philadelphia and London: W. B. Saunders Co., 1911. Cloth, \$2.00 net.

In the present edition of this work the text has been thoroughly revised, and is now up-to-date.

The chapter on artificial feeding has been improved by the addition of data, especially in reference to top-milk mixtures. Numerous practical points in the nursing of children's diseases have been incorporated. The chapters on intestinal diseases and therapeutics have been amplified.

This volume is attractively bound, and the reading matter is published on a good quality of paper. The illustrations are numerous and carefully inserted.

It is with pleasure that we recommend this volume to nurses and mothers.

Transactions of the Association of American Physicians. Twenty-Fifth Session held at Washington, D. C., May 3, 4, and 5, 1910. Volume XXV. Philadelphia: Printed for the Association, 1910.

Among the many valuable papers contained in this volume of transactions, we wish to call especial attention to the following: "On the Relation of Combined Intoxication and Bacterial Infection to Necrosis of the Liver, Acute Yellow Atrophy, and Cirrhosis," by Dr. Eugene L. Opie, New York; "A Study of the Development of the Epiphyses of the Hand and Wrist for the Purpose of Classifying the Cadets at Annapolis," by Drs. Thos. Morgan Rotch, Boston, and Harold Wellington Smith, Boston; "The Bacteriology of Acute Respiratory Infections in Children as Determined by Cultures from the Bronchial Secretions," by Dr. L. Emmett Holt, New York.

Plaster of Paris and How to Use It. By Martin W. Ware, M. D., New York, Adjunct Attending Surgeon, Mount Sinai Hospital; Surgeon to the Good Samaritan Dispensary; Instructor of Surgery in the New York Post Graduate School. Second edition revised and enlarged. Price, cloth, square form \$1.25. De Luxe leather \$2.50. Surgery Publishing Co., New York.

The exhaustion of the first edition and the persistent demand for this helpful book were the incentives for this second edition, which has been completely rewritten and enlarged and thus its scope of usefulness has been greatly extended. Complete new drawings and marginal side notes in red embellish the book and ninety illustrations are used to more clearly put up to the eye of the reader the intent of its subject matter.

Such information as History, Materials, Manufacture of Bandages, Storage, Bandages of Commerce, Cast Plaster Bandages, The Immediate Preparation of Bandages, Application and Precaution, Removal of Bandages, etc., are all given under the contents of The Plaster of Paris Bandages. Then follows such chapters as Application

of the Plaster of Paris Bandage to Individual Fracture, Fractures of the Upper Extremity, Fractures of the Lower Extremity, Moulded Plaster of Paris Splints, Plaster of Paris in Orthopedic Surgery, etc., and all presented in such a comprehensive manner as to make this book of particular service to every doctor. The mechanical features of the book are decidedly striking.

What's In McClure's.

The leading feature in the July McClure's is Burton J. Hendrick's article, "The Initiative and Referendum, and How Oregon Got Them." The governmental ideas that now occupy so largely the public mind have been in active operation in Oregon for several years, and in this article Mr. Hendrick shows the practical workings of progressive legislation.

"The Actress on the Road," by Mary Shaw, tells of the life in road companies, and of some of the difficulties and dangers that confront an actress on tour.

"Reclaiming the Heath," by Henry Stoddard Leach, is the story of how Denmark converted a desert into a farming country.

Albert J. Beveridge, ex-senator from Indiana, has contributed an article on "Canada's System of Responsible Government."

And Yoshio Markino, the Japanese artist, whose books have lately attracted so much attention, has written for the July number of McClure's, the first of a series of articles on his boyhood in Japan.

The special fiction feature of the July number is "Dreams in Lace," another Syrian story by Lucille Baldwin Van Slyke.

Among the other stories in this issue are "A Tale of the Coral Sea," a remarkable story of submarine adventure by Randolph Bedford; "The Wolf," by M. Gauss; "The Measure of Margaret Coppered," by Kathleen Norris; "A Change of Beat," by Edward B. Waterman, and "The Case of Richard Meynell," by Mrs. Humphry Ward.

Abstracts of the Leading articles of the month.

Pepsin, Its Origin and Changes.

In no branch of internal medicine has greater progress been made than in the diseases of the digestive tract. It is almost incredible that up to comparatively recent times digestion in its various phases was treated empirically.

The introduction of pepsin as a remedial agent affected a complete revolution in the method of restoring to normal the ailments,

which in the old days were classed in a group as dyspepsia. If physicians were to observe anniversaries of the discovery of remedies which had proven a blessing to mankind, the entire profession would unite in remembering the 50th anniversary of the first manufacture of pepsin in this country.

Just one half century ago, the late John Carnrick, the eminent physiological chemist and father of physiological products in the United States, made possible a new epoch in American medicine by producing the first pepsin.

Pepsin had been made in a small way in Europe before Mr. Carnrick's enterprise caused it to be introduced here, as it was originally suggested by Dr. Corvisant of Paris. The quality was so poor, however, that its use was distinctly limited.

The study of pepsin is made doubly interesting by the story of the first known application of the gastric juice as a remedial agent. The Boston Medical and Surgical Journal of April 17th, 1856, records the first case of its kind in medical annals.

Under the heading "A New Method of Removing Soluble Substances from the Oesophagus" Dr. P. W. Ellsworth, of Hartford, Conn., writes his experience, an excerpt from which is given herewith.

"In November, 1851, I was sent for to assist Dr. A. W. Barrows of this city in a case of choking in a lad 12 years old. An attack of scarlet fever some time before had left a stricture, probably at the cardiac orifice of the stomach. For several years he had been unable to take any substance thicker than soup. On this occasion he had attempted to swallow a scrap of pork and every effort to remove the obstacle had failed. A probany was passed without result. No nourishment could be taken. After four or five days the lad was exhausted from lack of food, though attempts had been made to support life by broth enemata.

"It occurred to me that the flesh might be dissolved and that the best solvent was the gastric juice itself. We obtained the stomach of a freshly killed pig; the contents were strained off and a teaspoonful given every hour or so. This was at night; early in the morning the mass was softened and easily passed into the stomach without instrumental aid. The patient suffered extremely from his long fast, and had a severe attack of fever, but recovered after a week or two. About two years after he was again choked in a like manner and the probany failed to produce expulsion of the offending meat. The same method was pursued and in a few hours the oesophagus was in good order without further manual aid.

"On March 22nd I was sent for to assist Dr. Child of East Hartford in a case of

similar character. A girl of 17 had suffered from scarlet fever and her throat had seriously troubled her. She tried to swallow a tough piece of veal, which became fixed in the oesophagus and could not be dislodged with instruments. I suggested gastric fluid. We commenced giving it in half teaspoonful doses every half hour. She passed a restless night but the next forenoon threw up several small fragments and in the afternoon the mass was swallowed after the ejection of several stringy fibres.

"I do not know that this is altogether a new treatment, but no author in my possession speaks of it, nor had it ever been suggested to my knowledge. Even now it is not absolutely certain that the solvent properties of the liquid are useful; still, as its use had been followed by relief three times, it is worthy of further trial. If some more palatable substance could be found, it would be desirable. Whether the gastric juice of simply herbivorous animals would answer, I can hardly say, but it seemed advisable to try that of a carnivorous one, as it would, if useful, produce a more speedy result."

So far as is known, Dr. Ellsworth was the first physician to make use of the gastric juice as a digestant and John Carnrick was undoubtedly indebted to him for the suggestion, for he commenced the manufacture of pepsin about five years after Dr. Ellsworth published his findings. It is not known how much inspiration he received from Europe regarding pepsin.

The gastric juice was recognized as a local application of value long before it was thought of in any other capacity. Dr. Philip Syng Physick of Philadelphia, the Father of American Surgery, as he has been aptly termed by his biographers, employed gastric juice in the dressing of "cancers, sloughing ulcers, for the removal of dead bone or flesh, for correcting offensive odors and for yielding a healthy stimulus to the diseased surface."

Dr. Physick was a daring operator and a most resourceful surgeon. He was a graduate in arts of the University of Pennsylvania in 1785, received the diploma of the Royal College of Surgeons in 1791, and was graduated Doctor of Medicine from Edinburgh in 1792.

He became Professor of Surgery in the University of Pennsylvania in 1805 and continued a member of the medical faculty many years.

Dr. Physick's originality was confined largely to surgery and surgical matters, and his discovery of the gastric juice as a curative agent was merely to assist him in his specialty. Apparently no one appreciated the importance of Dr. Physick's method of

treatment despite his great reputation and influence, for we find nothing in medical literature to show that it was followed up or in any way perfected.

The mutations of time bring many strange occurrences in their wake, but we recall nothing in medicine which has changed more than the gastric juice. It first came to notice as a topical application for open, infected wounds, and then after remaining dormant as a medicament nearly two score years was used as a solvent for food in time of dire extremity; later, it had one of its principal ingredients removed to give to physician's a most useful assistant, and finally it formed part of an ideal digestant.

To John Carnrick's skill as a physiological chemist and to his diligence as a research worker is due in a great measure the perfection of pepsin. He took it as a crude product, practically as a constituent part of the gastric juice, roughly set aside, and developed it into a refined medicinal agent. For more than 30 years Mr. Carnrick manufactured pepsin and pancreatin, the latter a mixture of the enzymes naturally existing in the pancreas of the hog or ox, consisting of amyllopsin, myopsin, trypsin and steapsin and capable of converting not less than 25 times its own weight of starch into substances soluble in water.

His observations lead him to the conclusion that valuable as pepsin and pancreatin were, they lacked the necessary properties to effectually reach many of the cases in which they were employed.

In consequence Mr. Carnrick began a series of experiments 20 years ago to determine the correctness of his theories. He proceeded to separate the nucleo-enzymes of the salivary glands, peptic glands, the pancreas and the glands of Lieberkuhn and Brunner and the ferment extract of the liver and spleen, so that a given amount would contain a proportional quantity of the enzyme principles of all the digestive organs and would act like the secretions of the natural organs.

For a long period these experiments were carried out under Mr. Carnrick's supervision by Dr. E. J. Lederle, the present Health Commissioner of the City of New York and at that time in charge of the physiological laboratories of Reed & Carnrick, which house is one of the oldest firms of manufacturing chemists in the country, having been established nearly 52 years ago.

After many months of experiments and observations, Mr. Carnrick determined that his new nucleo-enzyme combination was so far superior to pepsin and pancreatin alone that he placed it before the medical profession under the name of Peptenzyme. This

product, formulated along lines physiologically correct, has proven its value as a distinct factor in the treatment of the disorders of the alimentary canal, especially as it reduces albumens, starches, fats and cane sugar to the proper state necessary for assimilation.

The 50th anniversary of the first manufacture of pepsin in this country can not fail to be of interest to thousands of its prescribers.

Limitations of Spinal Anesthesia.—

Ryall (British Medical Journal) states that as the probation period of spinal analgesia is over it is justifiable to lay down distinct indications and contraindications for its use. At present spinal analgesia should be restricted to: (1) Cases for which local or venous anesthesia are inadequate. (2) Cases in which there are weighty motives for not employing inhalation narcosis, or in which spinal analgesia is especially indicated.

It might thus be used in the following circumstances: (1) Operations involving the danger of great shock. (2) Severe injuries associated with shock. (3) Urgent operations. (4) Operations upon the head and neck. (The author does not agree with Dr. Blumfield that the use of spinal analgesia for operations above the umbilicus is too dangerous and too uncertain to justify its use). (5) Abdominal operations. (The complete muscular relaxation, the elimination of shock, and the diminished liability to postoperative pneumonia are some of the advantages associated with this form of analgesia). (6) For prostatectomies, since for old and weak people this method has an undoubted advantage over general anesthesia. The enucleation is rendered much easier owing to the complete muscular relaxation. The dangers attending severe vomiting are avoided and shock is reduced to a minimum. (7) For rectal surgery.

Some diseases, if present, make the avoidance of general narcosis desirable, such as: (a) Diseases of the vascular system—acute pericarditis, severe valvular diseases, arteriosclerosis, etc.; (b) diseases of the lungs—pneumonia, bronchitis, phthisis, etc.; (c) renal disease.

As a rule alcoholics are exceedingly hard to anesthetize, requiring excessive quantities of ether or chloroform to obtain complete muscular relaxation. They breathe badly, and are more or less troublesome all through the operation. These subjects bear spinal analgesia very well. For them this method is particularly indicated when treating severe fractures or dislocations.

According to Continental gynecologists,

the employment of this method of anesthesia has markedly improved the operative results. It is particularly indicated in total abdominal hysterectomy for fibromata and carcinomata.

There is a certain class of people for whom the idea of complete unconsciousness is the most terrifying part of the operation. For such persons spinal anesthesia is especially useful.

Age offers no contraindication to spinal analgesia; on the contrary, the utility of the method at both extremes of life has frequently been demonstrated.

The contraindications to spinal analgesia are: (1) Operations which can be performed under local or venous analgesia. (2) Acute infective disease, as several deaths from suppurative meningitis have occurred, when severe infective diseases were present at the time the injection was given. (3) Suppurative processes in the neighborhood of the proposed site of puncture. (4) Alterations in the vertebral column which might prevent the puncture succeeding. (5) Diseases of the central nervous system, especially tumors of the brain. These are strict contraindications, as several cases of sudden death have followed simple lumbar puncture with withdrawal of cerebrospinal fluid from patients suffering from cerebral tumors. (6) Recent syphilis. (7) A high temperature. (8) If the patient cannot rest in bed for twenty-four hours after operation spinal analgesia must on no account be attempted. (9) In hysterical or very nervous patients a subcutaneous injection of one or more doses of scopolamine often works wonders.

Electricity in Neurasthenia.—Metcalf (British Medical Journal) reports a series of eight cases of neurasthenia in which the usual methods of treatment had failed, and in which the application of electricity produced good results. It will naturally be asked, how do the electrical currents act physiologically so as to cause the improvement as seen in this class of case? Psychological effects may be produced at times by these methods, as may happen in every other form of treatment. But improvement and cure must in a series of cases be due, as in other methods, to powerful therapeutical effects. In cases in which the blood pressure is high the effect of reduction of arterial tension may in itself produce the result. In the use of electrical machines there is always a large amount of ozone generated and it is not impossible that the inhalation of this gas for half an hour at a time may have some power of improving the patient's condition. D'Arsonval and others have demonstrated increased tissue changes,

more rapid reduction of the oxyhemoglobin in the blood, and increased elimination of waste products in the urine. Not only the sympathetic nerves controlling the vaso-motor system, but also those controlling the secretory, the thermogenic, and the peristaltic functions are stimulated. There is a profound action on the protoplasm of cells everywhere, increasing their chemical changes. Usually an increased amount of urea is excreted, attended by a disappearance of uric acid showing the oxidation of nitrogenous material. It is said that the output of CO_2 is sometimes increased from 17 to 37 liters an hour, and that there may be an increase in heat production from 79 to 127 calories an hour.

Pneumonia.—Gibson, in *The Glasgow Medical Journal*, states that there is really no one routine method of treatment for this disease. Each individual case must be carefully studied, and must be managed in accordance with the conditions which it presents. The employment of external applications in acute pneumonia does not, as a general rule, commend itself to us in modern times. It must be admitted, however, that when there is pain, due to any pleurisy accompanying acute pneumonia, external applications of heat are extremely soothing. It is better, under such circumstances, to employ small poultices, and change them frequently, than to envelop the patient in an extensive application. In certain cases of early acute pneumonia, in strong, robust individuals, the employment of cold, either in the form of the icebag or the cold water coil, will be found decidedly beneficial; and, lastly, when there is a high degree of pyrexia (and, still more, hyperpyrexia), the use of sponging and the wet pack—and even the cold bath—may be absolutely necessary. But above all present systems of treatment now in our hands, the best is vaccination. A good many years ago, some of the pneumonic patients under his care were treated by the administration of the defibrinated blood of patients who had just recovered from acute pneumonia, obtained with the most careful aseptic precautions. This method was adopted in accordance with the belief that the blood must contain some substance antagonistic to the organisms or toxins of the disease. As might have been expected, but little could be made out in the way of definite effect, as the method employed was eminently crude. In recent years, various sera, containing vaccines of dead pneumococci, have been employed. They undoubtedly produce considerable benefit in acute pneumonia; but they are far more efficacious in instances of unresolved pneumonia and in

various pneumococcal infections of other parts of the body than in acute pneumonia itself. The influence of such stock sera is by no means equal to the effects of vaccines made from the patient's own microorganisms. But the trouble is that, in a very large number of cases, the disease is so severe and the course so rapid, that there is scarcely time to obtain a vaccine. So far as the facts at present obtained are able to guide us, we must conclude that in vaccination lies the chief hope for reducing the mortality of pneumonia in the future. In cases where there is severe toxæmia and great leucocytosis, much may be done by the employment of quinine. In several instances of this kind—in which the patients had even reached a stage of profound coma, with complete relaxation of the sphincters, and every evidence of imminent danger—the hypodermic use of quinine has produced the most remarkable effects. The best preparation for this purpose is the acid hydrochloride, which is extremely soluble, and which may be administered hypodermically in doses of two grains every two hours, or every hour. This method has produced the most gratifying results in his practice.

Immunity.—Bond, in *The British Medical Journal*, concludes a discussion of this difficult question by pointing out that the old question which Lamarck and Darwin set themselves to solve in the world of species still confronts us in the world of the individual organism. They were struck by the sharply accentuated discontinuity between species on the one hand, and they were troubled by transitional forms on the other. They asked the question, How does one specific character arise out of, merge into, and give rise to another specific character? Lamarck answered the question in one way, Darwin in another. Modern bacteriological attitude to the evolutionary process as it affects the different varieties and different capacities of defensive cells is still in the Lamarckian stage, and the problem, moreover, is rendered even more obscure and more difficult by reason of the very fact that in the case of the body cell and the disease organism we are dealing with component parts of the individual organism, which are themselves unicellular organisms, and in such organisms the continuity between cytoplasm and nucleus is much more perfect than the continuity between body cells and germ cells in the multicellular organism. Hence in unicellular organisms, such as the defensive cells, environmental change exercises through the cytoplasm a much more direct influence on nuclear activity. Hence variation assumes a more directly adaptive character.

Hence, also, the greater difficulty in distinguishing between "innate variation" and variation due to "use acquirement." Hence the great probability that they are both a process of variation and selection—one intercellular, one intracellular—and the further probability that the one process has arisen out of the other. But the analogy between the progress of evolutionary thought in the ontogenetic and phylogenetic field goes deeper still. Confronted by the difficulties to be surmounted in accounting for "spontaneous" variation—that is in associating germ cell variation directly with somatic cell variation, the result of environmental change—Weismann fell back on variation and selection among the different determinants which he had already assumed in the germ cells, as forming the material basis of variation and hereditary transmission—that is, he fell back on variation and selection of an intracellular kind. In like manner Ehrlich, confronted with the difficulty of accounting for direct adaptation response in defensive cells, has assumed the existence of a complex machinery of "receptors" in the defensive cells to explain the manner in which the immunity response to disease organisms is brought about. There is, therefore, some precedent for going a step further and assuming, as we have now done, as a working hypothesis, a process of variation among the physiologically differentiated parts which compose the cell itself, together with a selection of the more favorable of the variations so occurring. The result of the foregoing examination into the conditions under which acquired immunity occurs tends to show that the process by which the defensive cells acquire new character and new capacities of offense and defense is a process of variation and selection, partly of an intercellular and partly of an intracellular kind. It tends to suggest, in fact, that "use acquirement" is a form of adaptation to environmental change brought about by variation and selection among intracellular units instead of among individual cells.

Auricular Fibrillation and Its Relationship to Clinical Irregularity of the Heart.

—Lewis (Ref., Med. Chron.) is of the opinion that arrhythmia perpetua is due to auricular fibrillation. The paper is based upon a study of 73 cases from all of which simultaneous radial and venous tracing and from 30 of which electro-cardiographic curves in addition were obtained. Mackenzie formerly believed that this type of venous pulse was due to auricular paralysis, but later he found that very frequently there was evidence of auricular activity and also that the rhythm was not necessarily associated

with tricuspid regurgitation and right-sided dilatation. He suggested that the stimulus for contraction arises somewhere between the auricle and ventricle, most probably the node of Tawara, a point of origin which would account for the nearly simultaneous contraction of auricle and ventricle. Hence he employed the term "nodal rhythm" to designate this type of irregularity.

Complete irregularity of the heart is common. Out of 115 unselected cases of persistent irregularity, 57 were of this form. Apart from the symptoms of dilatation and valvular lesion which may or may not be present, the subjective manifestations are few, but a certain degree of dyspnea on exertion is common. The symptoms at or about the onset of the condition, which is probably sudden, are often, however, quite definite and severe. There is a feeling of violent palpitation, choking feeling in the chest, and sometimes great prostration and exhaustion. The irregularity may appear in paroxysms, alternating with periods of regular heart action, and such paroxysms may last for a few hours to several months. The pulse rate is variable, but more commonly rapid. Its two outstanding characteristics are: 1. The complete irregularity; rarely two beats of the same character and length succeed each other. 2. The absence of definite and continued relationship between the strength of the beat and the length of the pause preceding it. The venous pulse curve is variable in type, the only constant characteristic being the absence of the auricular systolic or *a* wave.

When the pulse is slow, small undulations are occasionally seen in the diastolic portion of the venous curve. Similar undulations are observed in experimental fibrillation, and here they are certainly due to the small rapid variations of pressure in the veins dependent upon the fibrillation.

The Clinical Aspect of Intussusception.—Adams, in The London Practitioner, reports 100 cases treated at St. Thomas' Hospital during eight years. Seventy per cent. of the cases were in infants under one year. There were 10 enteric, 16 colic, and 73 enterocolic. Polyp or tumor of the intestine may be an important cause. The cardinal symptoms are pain, present in 92 per cent.; vomiting, 90 per cent.; bloody stools, 92 per cent. Diarrhea was seen in 13 per cent., and constipation in 33 per cent. In 27 cases a tumor was felt per rectum. Ninety-one cases operated upon gave a mortality of 35 per cent., due largely to shock. As usual, the mortality was much less in cases operated on within the first twenty-four hours.

Reflex Pain in Diseases of Abdominal Viscera.—Maylard (British Medical Journal) calls attention to the fact that if some powerful and exaggerated stimulus arises from an organ, not only are the cells specifically connected with the sympathetic in the cord greatly excited, but also those neighboring ones associated with the sensory nerves; hence it comes about that pain is often felt in the area of the abdominal parietes over the region of the affected organ. Not only may the cells in the immediate continuity be excited, but other cells more remote, and the distribution of the pain may become more diffuse and distant. His chief reason for thinking that in bowel disease we have to deal with really a splanchnic pain is that one usually fails to obtain any evidence of a cutaneous or muscle hyperalgesia. Nature seems to make an exception in her method of dealing with the bowel when implicated in obstructive conditions as compared with her protective measures in certain diseases of other parts. It matters not where the viscus is situated within the abdomen, nor where the lesion is located in the viscus, the initial acute seizure is most frequently felt in the midline, although variations will exist regarding the particular spot in this line. The explanation of the fact that in nearly every instance the pain is referred to the middle line is explained on the basis that the cells in the cord, which deceive the afferent fibers of the sensory nerves contained in the lower six intercostals, are abnormally irritated. Without attempting to differentiate clinically between lesions causing pain in the same spot, he gives a sort of classified list of the disease which may be expected to cause reflex pain in certain definite areas. (1) Perforation of a gastric or duodenal ulcer, rupture of the gall-bladder, acute pancreatitis, cause acute pain to be felt in the epigastrium. (2) Perforation of the appendix vermiformis or of the small intestine, ruptures, strangulations and obstructions from various causes, embolism or thrombosis of the mesenteric vessels, etc., cause acute pain to be felt in the region of the umbilicus. (3) Rupture in tubal affections, including extrauterine pregnancy, cause acute pain to be felt in the hypogastrium. While diseases of the abdominal viscera may give rise to reflex pain located in one or other of the anatomical regions into which the abdomen is artificially divided, all reflex pains experienced in these particular regions do not necessarily signify disease of abdominal viscera.

Treatment of Syphilis with 606. Marshall, in The London Medical Lancet, says that the two main questions to be decided

are, first, is arsenobenzol capable of replacing mercury and iodides in the treatment of syphilis? Secondly, if it is incapable of doing this, is it of value as a third weapon against syphilis? Before any drug can replace mercury and iodides it must be proved capable of producing one or more of the following effects: (1) the realization of an abortive cure of syphilis; (2) the prevention of tertiary or parasymphilitic manifestations; and (3) the healing of syphilitic lesions with greater rapidity, greater constancy, and at the same time with less liability to relapse and recurrence than is the case with mercury and iodides. It must also compare favorably with the latter as regards dangerous toxic effects. Let us see whether arsenobenzol has been proved to fulfill any of these conditions.

1. On the strength of its remarkable effect on relapsing fever in rats it was at first hoped that arsenobenzol might effect an abortive cure of syphilis, or *therapia sterilisans magna*. However, this idea has been abandoned by most of the recent investigators. In any case, an abortive cure of syphilis is impossible to prove, at any rate in the human subject, owing to the long latent periods that may elapse between the early and late manifestations. Those who pin their faith on the Wassermann reaction claim that a persistently negative reaction signifies a cure; but considering our ignorance of the real nature of this reaction, and the knowledge that it is not specific for syphilis, it is doubtful if this evidence can be accepted as absolutely conclusive. Moreover, as Flashman and Butler have pointed out, in a case of syphilis which is apparently cured an encapsuled form of disease may remain in some part of the body, incapable of producing the bodies which cause the complement deviation of the Wassermann reaction, unless roused to activity by some extraneous cause. Obviously, such a case might continue to give a negative reaction, which would be misleading.

Another fact often brought forward as evidence of the cure of syphilis is the occurrence of reinfection; but in the light of recent observations it appears that reinoculation with syphilis may be successful before the original infection is extinct. A few years ago Finger and Landsteiner suggested that as a syphilitic subject might have recurrent lesions for years due to his own endogenous spirocheta, so might he have lesions during the same time due to exogenous spirocheta. More recently Pinard has shown that reinfection, or rather superinfection, can take place during the primary period up to thirty-one days after the appearance of the first chancre, and also during the tertiary period. He con-

cludes that immunity is complete only during the secondary period, that it is incomplete during the primary period, and gradually weakens during the tertiary period.

It appears, therefore, that it is impossible to prove that an abortive cure of syphilis can be realized by arsenobenzol or any other drug.

2. The second question—whether arsenobenzol prevents tertiary and parasyphilitic lesions—need not detain us, for it would take many years to prove. It may be mentioned, however, that this point has been proved for mercury by Fournier's statistics, so far as statistics can prove anything.

3. The third question is whether syphilitic lesions heal under arsenobenzol more rapidly, more constantly, and with less liability to relapse and recurrence than under mercury and iodides. Taking this question as a whole, the answer appears to be a negative one, although on certain points there are differences in the results of different observers.

As regards the rapidity and constancy of action, the earlier investigators described this as "marvelous," "miraculous," and even "dumbfounding." Obsessed by their enthusiasm for the new drug, they seemed to have forgotten that it is quite a common thing for syphilitic lesions to disappear with "marvelous" rapidity under mercury and iodides; indeed, before the discovery of the spirochata pallida this rapidity of disappearance was often a source of embarrassment by obscuring the diagnosis, in cases of doubtful chancre, for instance.

The author has photographs of two typical cases treated by arsenobenzol; one, a primary chancre which healed in eight days, the other an early secondary syphilide which mostly disappeared in two weeks. It is quite common for such lesions to heal in the same time under mercurial treatment, especially by inunction. Gottheil, one of the most recent and more impartial observers, says: "Its immediate effect may be better, in some cases, than that of mercury; in others it is slower and less certain; in some cases it fails. Professor Gaucher, who has recently published the results of his experience at the St. Louis Hospital, finds that there are some cases which resist the action of arsenobenzol; others which heal with the same rapidity as under mercury; others, again, which heal more rapidly, but the latter are superficial ulcers and mucous patches which are easily healed by mercury. Further, he finds that arsenobenzol has no effect on visceral syphilis, nor on parasyphilitic affections such as tabes, general paralysis, and lingual leucoplakia.

As regards liability to relapse and recurrence, the earliest reports did not mention

these because they were published before relapses had time to occur. Very soon, however, relapses were noted, but were attributed to too small a dose. More recently relapses have been shown to be common after the average dose of 0.6 gramme.

The author thinks it will appear obvious from the foregoing considerations that mercury cannot be replaced by arsenobenzol in the treatment of syphilis, at any rate in the present state of our knowledge. In fact, the so-called "treatment of syphilis by '606'" is a misnomer; it is really the treatment of certain symptoms of syphilis, not treatment of the disease itself.

Electrical Treatment of Obesity.—Laquerriere (Journal de Medicine de Paris) mentions Bergonie's electrical method of treating obesity by exercise of the various muscles, the surface of the body being covered with large electrodes, so that all the large muscular masses are affected. The operator then applies a tetanizing faradic current through the electrodes, in such a manner that there is a rhythmical action, the excitation lasting half a second and the interval of repose a half second. The current should be strong enough to cause marked muscular contractions. During this treatment the body becomes covered with sweat, but the patient feels no disagreeable sensations, only the contraction of the muscles. The heart and respiration are increased in frequency, in response to the need of increased oxygenation in the contracting muscles. There is no appreciable fatigue when the sittings are properly managed; the appetite is increased and sleep is improved; blood pressure is lowered as it is after simple exercise. One gets general active gymnastics, but involuntary ones, and without the interference of the psychic centers. It is difficult to find any other system of gymnastics that approaches this in the general action of all the muscles. This form of exercise may be used even for persons who are persuaded that exercise is bad for them. Since the movement is involuntary the nervous system does not become fatigued. In the fearful and the neuropath one may get the benefits of exercise without their having any of the inconveniences of it. Bergonie has obtained brilliant results by this method in the obese, but the method may be employed also in all the nutritional troubles. This method is both preventive and curative, since it increases the musculature of the patient, and he will not again fall into the hygienic faults that have caused his obesity.

The Medical Treatment of Cholelithiasis

Anderson, in the Australian Medical Journal, says that in view of the important

part now generally assigned to infection by micro-organisms in the formation and increase in size of gall stones, the most reasonable method of treatment of the condition would seem to be to endeavor, if possible, to render the gall bladder aseptic, and the drug that suggests itself as likely to be of service in this way is Urotropine or one of its derivatives.

The value of Urotropine in infective conditions of the urinary tract has long been recognized. Horton Smith long ago showed that typhoid bacilluria readily yields almost invariably to its use. Although Although Nicolaier, who was the first to recommend its use in urinary infections, did not think that it had any effect in acid cystitis due to the bacillus coli communis, it is now regarded as one of the most efficient agents in treating that infection. In the pyelitis of children, for example, which is found to be almost always associated with the presence of the colon bacillus, alone or in combination with other organisms, Urotropine is of the greatest service.

Crowe has shown that the action of this drug on the gall bladder and pancreas is similar to that on the urinary tract; it is excreted unchanged or as formaldehyde by the bile. In a distended gall bladder infected with bacillus typhosus, 15 grs. given daily gave a sterile culture at the end of ten days. In another case a massive dose of 75 grains gave a sterile culture at the end of twenty-four hours.

Moynihan again has recorded a case of pancreatitis, in which the bacillus typhosus was found in the fluid from a fistula after drainage of the gall bladder. Fifteen grs. of Urotropine were given thrice daily, and eleven days afterwards no typhoid organisms could be found in the bile.

For over four years I have been using Urotropine in doses of from $7\frac{1}{2}$ to 10 grs, three times daily in cases of gall-stone disease, and have records of twenty-four private cases thus treated. I am sorry to say that, through a misadventure, it has been impossible for me to obtain notes of hospital cases.

The diagnosis has been made upon the presence of severe intermittent or recurring pain in the hypochondrium sometimes in the epigastrium, sometimes with, sometimes without jaundice, usually with pain in the right subscapular region, and tenderness in the posterior lower region, and at Nauyn's point, the outer edge of the right rectus muscle, opposite the tip of the ninth costal cartilage. In addition to Urotropine, I have administered, twice weekly, a pill of 1 gr. each of eunonymi and iridin; the latter is regarded by Rutherford as one of the most reliable of cholagogues.

Two of my patients—elderly ladies, aged seventy-eight and seventy respectively—have died of syncope and apoplexy two years after the commencement of treatment, and in each case there was no return of symptoms for the last eighteen months of life. I know of several others who have been quite free from symptoms after a variable time from the beginning of treatment. Many of the cases have been lost sight of, and some of these I think I should have seen if symptoms had recurred.

Three of the number have undergone operations for their liver condition. In one case a lady of about forty, who had had repeated attacks of biliary colic, was operated on thirteen days after the first administration of Urotropine. No definite stone was found in the gall bladder, but there was some gritty substance which suggested broken-down gall-stones.

The second patient was a young lady who had had enteric fever two years previously, and who had had recurrent jaundice with every little pain, the diagnosis being doubtful. Urotropine was given for three weeks without result, and five weeks later operation took place. No gall-stone was found, and the symptoms did not improve after cholecystotomy. Later, the patient went to her home in the country, developed ascites, and eventually died in a little more than twelve months from the date of operation.

The third case was a young lady whom I saw temporarily for a colleague during his absence from town. She was put on Urotropine, but I cannot say for how long it was continued. Six weeks later she was operated on, and a large single calculus removed from the gall-bladder. After a prolonged illness she quite recovered.

One case was a feeble, elderly gentleman, over seventy, who had recurrent attacks of pain in the right hypochondrium for some weeks, with jaundice. When I saw him in consultation he was very ill, with fever up to 101° , a distinct right hypochondriac swelling, and a leucocyte count of 10,000. Operation was advised and declined, and on my visiting him a second time a fortnight later there was not much alteration in symptoms. The Urotropine was given in the usual doses, and a fortnight later he was said to be rid of his pain and jaundice, and to be getting about again.

I think there can be no doubt that, in addition to its disinfectant action on the urinary bladder in cases of enteric fever, Urotropine is likely to be of use in preventing infection in the gall-bladder, and so minimizing the danger of cholelithiasis af-

ter that disease; and it is well, therefore, to give Urotropine as a routine treatment during convalescence from typhoid.

My experience inclines me to recommend the use of Urotropine together with the other dietetic and hygienic measures already mentioned. In early cases of cholelithiasis, or in cases where the indications for operation are not urgent. If operation has to follow, the antiseptic action of the drug on the bile may be helpful in preventing septic complication. We know, however, that in urinary sepsis Urotropine cannot always be regarded as a specific, and it is not likely to be so in gall-bladder conditions. Even if we are able to produce a sterile condition of the gall-bladder contents, there may be many conditions which call for operative interference, and the solution of a calculus may be too slow to admit of operative delay.

In conclusion, it is well for the physician to bear in mind the words of Mayo Robson:—"I hope the time is not far distant when it will be fully recognized that though cholelithiasis, so far as its causes and its early treatment are concerned, is distinctly a condition for medical treatment, it is both unjust to the patient and unfair to the profession to continue medical treatment and to postpone surgical aid until serious complications supervene or the patient is almost, if not quite, past relief."

Gonorrheal Inflammation of the Vas Deferens Simulating Appendicitis.—Rene' le Fur (Brit. Med. Journal) has reported seven cases in which gonorrheal inflammation of the vas deferens simulated appendicitis. Statistics have been published to show that in about 40 per cent. of cases of gonorrheal epididymitis the vas deferens, prostate, and vesiculæ seminales are involved. He goes much farther than this, and states that, having systematically examined these parts per rectum in all cases of gonorrhea, acute or chronic, he has always found them involved in cases of epididymitis. The cases of inflammation of the vas simulating appendicitis may be divided into two classes, those which are accompanied by epididymitis and those which are not. The former cases may clinically take several forms—acute, sub-acute, or chronic, just as may appendicitis. Cases of very acute epididymitis with severe pain in the abdomen and right or left iliac fossa, vomiting, obstinate constipation, tympanitis, and a temperature of 104° or 105° F., due to an intense peritoneal reaction and exactly simulating the symptoms of acute appendicitis, are well known. These symptoms are due to concomitant inflammation of the vas and vesiculæ seminales which has involved the cellular tissue

and even the peritoneum covering the pelvic part of the vas and the vesiculæ seminales. The following is an example of inflammation of the vas simulating appendicitis. A man, aged 25 years, had slight epididymitis about the fifteenth day of a first attack of gonorrhea. In the fourth week on returning from a railway journey he was seized with violent pain in the right side of the abdomen, tympanitis, vomiting, and a temperature of 105° F. There was absolute constipation and flatus was not passed. He showed the pinched peritoneal face. He and his family were very uneasy, and thought he was suffering from appendicitis. The Dr. reassured them, though he was himself uneasy, and prescribed opium and the application of ice to the abdomen, which relieved the pain. But on the following day the vomiting and the fever persisted, there was some delirium, the tongue was dry and furred, the pulse was rapid and weak, and the tympanitis had increased. He then diagnosed appendicitis and called in Professor Berger, who confirmed the diagnosis of appendicitis, but advised against operation, and recommended that the treatment be continued. For two days the condition of the patient was serious. There were a frequent and imperious desire to micturate, and a feeling of weight in the lower abdomen. On the fifth day the urethral discharge, which had disappeared completely, reappeared in an abundant form. Rectal examination showed that the right vesiculæ seminales was much enlarged and painful; the vas deferens could be followed along the pelvic wall as an elongated, painful swelling. On pressure on these organs and on the prostate pus exuded from the urethra. Further, there was in the pouch of Douglas a median swelling of the size of a Tangerine orange, which was painful and soft. The urethral injections were resumed, suppositories of thigenol were inserted, and the bladder was washed out with a 1 in 4000 solution of permanganate of potassium. Rapid improvement took place. The diagnosis was altered from appendicitis to spermatoecystitis and inflammation in and about the vas deferens with intense peritoneal reaction. Under massage of the vesiculæ seminales and vas deferens, warm injections, and suppositories the swollen vas diminished, but complete absorption of the swelling as well as of the tumor in the pouch of Douglas occupied a long time.

Diagnosis of Tubal Pregnancy in the Earlier Months.—Fehling (Archiv f. Gynak.) advises that in every case of tubal pregnancy with rupture and effusion of blood into the abdominal cavity or hemato-

cele, laparotomy should be immediately performed. There should be no delay until the patient has recovered from collapse in cases of intraabdominal hemorrhage, as even a slight recurrence after transient improvement may prove serious. After the administration of camphor the patient is etherized, but saline infusion is not employed until the close of operation, so as not to cause an increase of blood pressure. In every case of hematocele prompt intervention should be the rule, not only because the operation is free from risk, but also because recovery is less protracted and recurrence avoided. From observations in 170 cases in the author's clinic it appears that tubal pregnancy sometimes results from an infantile condition of spiral torsion of the tubes, but chiefly from residues of old gonorrheal or inflammatory puerperal processes. In the diagnosis, inflammatory conditions may be differentiated from ectopic gestation by the leucocyte count and by puncture of the posterior vaginal wall.

Thyroid Extract in Rheumatoid Arthritis.—Wilson (British Medical Journal) says that the use of thyroid extract in rheumatoid arthritis first suggested itself to him in 1907, when called to attend an advanced case in which the patient was bedridden, all joints being more or less involved, with extreme wasting, anorexia, sleeplessness, and constant pain. The patient—a man of fifty-four—had no illness until the onset of this condition, which had been coming on gradually since he was forty. He could not stand, had lost all power of locomotion, could not feed himself, nor raise his arms to brush his hair.

Dr. Wilson was struck with his rough, dry, harsh skin, crisp hair, husky voice, and deep suprasternal notch; the prominence of the trachea and apparent absence of thyroid gland, analogy to other conditions suggesting deficiency of thyroid secretion.

Accordingly, the extract of thyroid was administered in doses of 5 grains three times daily, together with adjuvant treatment to be mentioned presently. In a month the results were remarkable. The patient could struggle on crutches from one room to another, his appetite returned, and pain was almost gone. In three months he could walk with two sticks, and in eighteen months he was able to walk three miles with the aid of one stick. His elbow and shoulders have regained their mobility almost entirely, and he has been for a year able to do without his thyroid extract without a relapse. At the present date he is able to get about well, with slight flexion of one knee and some metacarpophalangeal deformity, but is fat and well and enjoys life.

Another case was also that of an elderly man whose metacarpophalangeal joints were three months ago greatly enlarged with a pulpy synovial membrane and partial palmar dislocation of the joints, and whose knees and elbows were in much the same condition. He was put on the same treatment. There appeared to be little if any eburnation of the bones, but much periarticular thickening and weakening of the ligaments.

In this case the thyroid gland could not be detected. After three months' treatment on the above lines he has more pliability in his joints, a good grasp, and can walk without his stick; he has more confidence in locomotion and more muscular control over his joints. On the whole he is much improved and still making steady progress.

Dr. Wilson is of opinion that the group of cases likely to receive benefit are those in which changes are chiefly confined to the synovial membranes, without erosion of cartilage or eburnation of bone, such cases in fact as Schuller describes as "chronic villous arthritis."

In these cases the local improvement is evinced by gradual softening of the pulpy synovial tissue under the influence of thyroid extract, the gelatinous feel under one's finger being replaced by a sensation of fluctuation. Subsequently absorption appears to take place, leaving a firmer, more useful joint, and at this stage adjuvant treatment by means of passive movement, massage of the neighboring muscles (not the joint), and liniments are of great efficiency.

The Duty of the General Practitioner to the Deaf Child.—Yeonsley (The British Journal of Children's Diseases) says that "the etiologist occupies an intermediate position in this matter between the general practitioner and the educationalist, and is too often helpless. It is the general practitioner who might have earlier saved the patient from his trouble, and when the deaf mute comes to the otologist the latter can only pass him on to the educationalist." In these words the author sums up his views on this important subject. The Dr. says that the great majority of cases of deafness are directly resultant from acute or chronic inflammations of the ear, that these are associated with obstructive conditions in the upper respiratory tract, namely, the nasal passages, and that the great cause of nasal obstruction in children is due to hypertrophy of the pharyngeal tonsil—in other words, to adenoids. Adenoids affect the ear in two ways, by causing obstruction to the nasal respiration and inducing sepsis of the Eustachian tube. The removal of the adenoids must be thorough, and must in-

clude any growths in the fossæ of Rosenmüller. Middle-ear disease may exist without pain, therefore in fevers of obscure origin the ear should be examined. When suppuration of the middle ear occurs it should be carefully treated and the adenoids removed when the acute symptoms have subsided. The less common causes of deafness in children are meningitis, congenital syphilis, and mumps, all of which attack the internal ear. Congenital syphilis causes deafness between the age of 6 and 14 years, about the time of eye manifestation. Vigorous treatment with mercury is called for, and if this fails the only hope lies in the injection of pilocarpine. Mumps may cause deafness by involvement of the labyrinth, the symptoms being rapid deafness, with or without vertigo and nausea; the treatment must be prompt, and consists of giving pilocarpine and iodide of potassium.

Measurement of Arterial Tension by Different Sphygmometers.—Amblard (Archives Gen. des Med.) says that the different instruments for measuring arterial tension are based upon the four principal methods, namely: (1) Compressions of the artery by an ampulla (Bach); (2) compression by a band (Riva-Rocci); (3) compression of the finger by a ring (Gaertner), and (4) the oscillatory method, different from the preceding, and undoubtedly much preferable. The difference in the standards for normal individuals depends on the difference in the instruments and upon the fact that some measure the maximal arterial pressure, some the minimal, and others the arteriole tension. The sphygmometers of Bach, Potain, Sable, Riva-Rocci, and the sphygmo-signal of Vaquez all indicate maximal pressures. Comparison records show that there is absolutely no parallelism which can be established *a priori*: whereas the normal pressures with one of these methods may be about 30 m.m. of Hg. higher than those of a second method, in measurements of hyper- or hypotension no such corresponding relation exists. The difference between the Potain and Riva-Rocca sphygmometers in a normal individual may be found to be 20 to 30 m.m.; in pathological conditions they vary from 10 to 100 m.m. On the other hand, Amblard found that the instruments recording minimal pressures (the sphygmometers of Hill and Barnard, Amblard's sphygmometroscope, Lagrange's pulsocardioscope, and the oscilometer of Pachon) furnish comparable and parallel results. It is impossible to establish a parallelism between the results furnished for the maximal tension by the different methods which in itself is reason enough against looking for any cor-

relation of these same results with those obtained by other instruments. It is advisable to compare only those results obtained by the same instruments; and the recognition of the one or the other tension is equally indispensable for an appreciation of the conditions of the arterial circulation. Finally, Amblard found that the method of Gaertner—compression of the finger with a ring—gave almost identical results as the Riva-Rocci. It demonstrated that the pressure in the arterioles is practically the same as the maximal tension.

A Greywhite Papillary Tumor of the Bladder.—Veruht (Vichow's Archiv.) observed in a man, aged 30 years, a grey-white papillary tumor of the bladder which had formed numerous metastases in other organs (pelvic connective tissue, prevertebral, mesenteric and cervical lymph glands and lungs). On microscopic examination it was found that both the primary tumor and the metastases were composed of two different types of cells: (a) syncytial elements resembling the syncytia of the chorionic epithelium, and (b) large polyhedral cells differing only slightly from Langhan's cells. Transitions between both kinds of cells were frequently observed. The greater part of the stroma was highly edematous, producing manifold variations of structure.

This case shows that not all tumors morphologically simulating chorioepithelioma are to be regarded as such genetically, but rather that abundant formations resembling chorioepithelioma occasionally may occur in a carcinoma manifesting nothing characteristic microscopically.

The Advantages of Sulphur as an Intestinal Antiseptic.—Wild (Proceedings of the Royal Society of Medicine) says:

1. It is almost tasteless and easily administered.
2. It is insoluble in the stomach, and the greater part of it passes along the whole length of the alimentary canal.
3. It does not interfere with the action of any of the digestive secretions.
4. It forms active antiseptic substances in the intestines when their contents become neutral or alkaline. Some of these substances are gaseous and penetrate to all parts of the intestine.
5. It is sufficiently non-poisonous to be given in effective doses.
6. It has valuable laxative properties which promote an early evacuation of the intestinal contents.
7. It is cheap.

Congenital Obliteration of Bile-Ducts with Hepatic Cirrhosis.—Weber (British Journal of Children's Diseases) reports the case of a child, a girl, who lived 6 months.

The symptoms were intense jaundice, enlarged liver and spleen, and ascites. There was not much wasting. At the end the child had diarrhoea and symptoms of bronchopneumonia. The necropsy revealed a biliary cirrhosis of the liver, a contracted gall-bladder, and the common duct, cystic duct and portion of the hepatic duct absent and represented by cords of connective tissue; the cord representing the common duct appeared to terminate before reaching the duodenum; the proximal end of the hepatic duct and its branches were moderately dilated and filled with inspissated bile; a section of the cord representing the common bile duct showed a solid connective tissue band, rich in blood vessels of an embryonic type; sections of the gall-bladder also proved to be rich in connective tissue and vessels of an embryonic type. The author thought the evidence pointed to the lesion being a developmental error of the bile ducts, followed by cirrhosis of the liver due to obstruction to the flow of bile.

Polioencephalitis of the Cerebello-Rubro-Spinal System—A Cause of "Acute Tremor" in Children.—Parsons (British

Journal of Children's Diseases) describes four cases of acute tremor in children due to polioencephalitis. He points out that polioencephalitis presents a symptomatology which varies greatly with the part of the brain chiefly affected. Thus if it affects the cerebral cortex, convulsions, infantile hemiplegia, mental deficiency and epilepsy may result. If the mid-brain, nuclear palsies of the nerves which arise in that region, 3rd and 4th, also lesions of the red nucleus and its connections producing acute tremor. If the pons, nuclear palsies of the 5th, 7th, etc. If the cerebellum, frequently there develops a wild ataxia, the "acute ataxia" of Leyden, accompanied by hypotonus of the muscles and possibly nystagmus. The cases described resemble those reported by Miller in a recent number of Brain under the title "On Certain Cases of Acute Tremor Occurring in Children." The important symptoms are three: acute onset, tremor, and hypertonus. Gordon Holmes has shown that a destructive lesion of the cerebello-rubro-spinal system produces a slow, coarse, regular tremor of a rate 3-5 per second. It is involuntary, can only be checked for the shortest space of time, and volitional movement of the affected limbs is complicated by an irregularity of the intention tremor type, like that met with in disseminated sclerosis. The Dr. has also pointed out that combined with this tremor is a certain degree of paresis and rigidity; in fact that there is a close resemblance to the classical symptomatology of paralysis agitans. To establish the similarity of the

destructive lesion to that occurring in infantile paralysis he relies on the following points: The acute onset, tendency to recovery, seasonal incidence (July to October), and the age (15 months to 4 years).

At what Age Should the Education of the Deaf Child Commence?—Yeonsley (British Journal of Children's Diseases) is of opinion that the oral education of the deaf child should commence at the age of three years, and that the ultimate success of deaf education would be greatly enhanced thereby. The practice in different countries varies, but the tendency is to lower the age of admission to schools for teaching the deaf to speak. Speech plays an important part in the development of the intellect, and therefore should be begun early. There is a hereditary tendency to speech, and the deaf child should be given an opportunity to exercise it by being taught early by the oral method. The plastic brain period of the child is past at seven years, the usual time when teaching of the deaf is begun; the earlier teaching of young children should be by kindergarten classes especially adapted for the deaf, and be done by experienced teachers.

Differential Diagnosis between Cerebrospinal Meningitis, Epidemic Polio-myelitis, Infantile Paralysis, and Infantile Encephalitis.—The Arch. de med. des enf., says that after the acute period of cerebrospinal meningitis the abolition of reflexes, muscular atrophy, electrical modifications, all are similar to those seen in infantile paralysis. Death may occur rapidly from respiratory or cardiac troubles of bulbar origin. The peripheral nerves or the spinal cord roots may be affected. The polymorphism of the disease is great. Some authors have claimed the identity of cerebrospinal meningitis and infantile paralysis. It has been established by the observations of several authors that in infantile paralysis microorganisms are not found in the spinal fluid. Those that are found are probably due to secondary infections. Leukopenia is found in infantile paralysis in contrast with the hyperleukocytosis of cerebrospinal meningitis. Inflammations of the ocular globe, modifications of visual acuity and of hearing are not seen in infantile paralysis, while sometimes present in cerebrospinal meningitis. In the former, intelligence is preserved; it is lost in the latter. There are intermediate type between the painful forms of infantile and the meningitis forms of epidemic poliomyelitis. They may be the same disease, one epidemic the other sporadic. In epidemic poliomyelitis the spinal fluid shows lymphocytosis, albumin, increase of pressure,

sometimes fibrin, and mononuclears without microorganisms. In infantile paralysis the fluid is clear, without cellular elements and sterile. Encephalitis may stimulate meningitis, but it appears in the course of an infectious malady; and the fluid drawn from the spinal canal is clear and contains no cells.

Alcoholism and Phthisis.—Lister (Medical Press and Circular, London) writes on certain conditions which bear on the prognosis of phthisis. He is of the opinion, which is fortified by an experience of many years, that among the most common conditions found associated with consumption is that of alcoholism. At one time, and not so long ago, it used to be the custom to give alcohol in somewhat large quantities to phthisical patients. The administration of alcohol combined with overfeeding used to be the routine practice in Nordrach Sanatorium; this, however, is now discontinued. In the opinion of the writer, alcoholism is very closely allied to the causation of tuberculosis, and in the prognosis of the disease he thinks it may be accepted as an axiom that the chronic alcoholic does not materially benefit by any amount of treatment. For instance, studies of mortality statistics show that the list of occupations suffering most from alcoholism almost coincides with the list of occupations in which phthisis figures most significantly. Thus in the lipuor trade the incidence of pulmonary tuberculosis is most conspicuous. In short, the abuse of alcohol conduces to the diminution of the resistance of the individual to the tubercle bacillus. Of course, the life led by the bartender is inimical in most respects to health, the confinement, the oftentimes foul air, the spitting, and the dirty habits of many of the people with whom he is thrown into contact are all factors to be taken into consideration and all tend to produce a lowered vitality. But in any occupation in which the abuse of alcohol is practiced there is invariably a high mortality from tuberculosis, and the statement that there is a very distinct relationship between alcoholism and pulmonary tuberculosis, Lister claims, is fully shown by mortality statistics.—Exchange.

Tumors of the Pelvis and Ureter.—Drs. J. and P. Fiole (Gazette des Hopitaux) give a summary of their experience in the treatment of tumors of the pelvis and ureter. It is difficult to distinguish tumors of the pelvis from those of the ureter, so that they may be best studied together. These new growths are rare, but their rarity is explained to some extent by the fact that they are often mistaken for other conditions. The diagnosis is based partly upon the clinical

picture, and partly upon examination with the ureteral catheter. Pain is sometimes an early symptom, and may assume the character of a dull ache or of a nephritic colic. The pain may also be absent until very late in the disease. The presence of a tumor is not constant, for the swelling may be due to the accumulation of urine or blood in the pelvis. The swelling may also be intermittent. Hematuria may be one of the principal signs. It may be accompanied by pain and may be intermittent, but does not seem to be influenced very much by rest or movement. Fragments of the tumor may be found in the urine. Examination with the cystoscope and with the ureteral catheter may sometimes establish the diagnosis. The catheter may impinge upon the tumor and cause it to bleed. As regards the treatment, it is almost exclusively surgical, and consists in an early and radical removal of the growth. The only contraindication is a bad functional state of the opposite kidney. The indications vary somewhat according to the location of the growth. When the growth occurs in the pelvis alone, and when it is malignant, nephrectomy should be performed and as much of the ureter as can be reached should be excised, together with any accessible glandular structures. In cases of papilloma in the pelvis, some very good results are obtained at times, but the authors warn against too conservative operation, unless the opposite kidney be functionally impaired. Curetting of the base of the tumor has given very bad results. A better treatment is partial resection of the pelvis, but even this method gives poor results. In general, the best treatment is a simple nephrectomy with or without excision of a part of the ureter. When the tumor affects the ureter alone, and when it is malignant, the removal of the kidney and ureter is advisable, and sometimes it is necessary to resect a portion of the bladder also. The same operation is necessary when both kidney and ureter are the seat of the tumor. If the tumor be inoperable a nephrectomy may be attempted.

Researches on the Diarrhea of Infants.

—Metchnikoff (Gaz. Med. de Paris) has studied the intestinal flora in acute gastroenteritis of infants, which he finds much less complex than in adults. This flora has a serious bearing not only in affections of the digestive tract, but also in disturbances of nutritive metabolism, and in diseases of the nervous system, skin, and kidneys. Experiments which resulted in causing diarrhea in young rabbits at the breast by administering portions of the stools of infants suffering from acute gastroenteritis, prove that this latter is an infectious malady.

Experiments on chimpanzees gave analogous results, the influence of food and high temperature being excluded. He at first thought that the infective agent was to be found in paratyphoid bacilli, but soon became struck with the constant abundance of bacillus proteus, occurring in 30 cases out of 40. It developed readily on gelatin. The experiments were then repeated by administering to the rabbits and chimpanzees pure cultures of proteus: the resulting infection, instead of showing itself as diarrhea, took the form of a fatal dry cholera. Assuming that proteus plays an important part in infantile diarrhea, a search for the source of the infection disclosed the fact that it was rarely met with in cow's milk. On the other hand, house dust and fecal matter from a number of animals contained it, and it is found on the outer layers of most food-stuffs, including cheese, grapes and salad. The author concludes that the microorganism is transported by flies from the dejecta of animals to the articles of diet which are consumed raw, and thus introduced into the digestive tract of persons who eat them. Prolonged contact of these persons with nurslings is sufficient to contaminate them with the microbe, which, though well tolerated by adults, provokes diarrhea in infants. Hence the means taken with regard to milk by sterilization, etc., are not sufficient, but attention must be directed to keeping the hands clean, washing certain foodstuffs, purifying the streets, and destroying flies.—British Journal of Children's Diseases.

Radiotherapy in Acute Adenitis.

Jaugeas says that the use of the x rays is the treatment of choice in tuberculous adenitis when it has not yet suppurated, and should be used as an adjuvant to operation in tuberculous abscesses and rapidly developing adenitis. The benignity of this treatment makes it acceptable to the patient and renders it easier to get him to submit to surgical operation. Its action is rapid and complete in non-suppurative cases. It depends on a reduction of the lymphoid elements, and in single glands is very rapid. When several glands form the mass the connective tissue of the periadenitis which joins them into one mass is not so easily absorbed. When caseation has occurred and abscess has formed it is necessary to first evacuate the abscess through a very small opening and then to apply the rays in sufficiently strong doses to produce an immediate effect. Such a strong application is greatly superior to several weaker ones, which may cause an irritation favorable to the development of the swelling. The esthetic results obtained by this method

are much to be preferred to the formation of scar tissue after operation, and the mass is affected throughout in such a way that the neighboring glands do not enlarge afterward, while, after operation, other glands may enlarge and the difficulty be repeated.—La Presse Medicale.

Extraction of Upper Teeth with Intra-nasal Anesthesia.

Richter advises the insertion in the nasal fossæ of pledgets of cotton soaked in 10 per cent. cocaine solution. These are introduced on the side to be operated on. Another pledget soaked in 1:1000 suprenen solution is then inserted. The cotton is allowed to remain in situ for 15 minutes. Pledgets should be 4 cm. long and placed upon the floor of the nasal chamber. The object of this anesthesia is to reach the nerve filaments which supply the teeth. In most cases it is possible to extract the incisors without pain, doubtless because the alveolar nerves are reached by the diffusion of the solution. It is possible that a more extensive analgesia is obtainable if a less toxic analgesic is thrown directly into the antrum. This would necessitate puncture of the inner wall of the latter. Another suggestion is a submucous injection in the floor of the nasal chambers. If these methods are practicable they should possess advantages over infiltration of the gums.—Archiv fur Laryngologie.

Medicines Not the Cause of Decay of Teeth.

Harold Austin, in an address before the British Medical Society, said that there is a very widely spread and deeply seated popular belief that the taking of medicines is a common cause of the decay of the teeth. This belief is fostered, he states, first by the fact that certain drugs, such as iron, cause an obvious, though superficial, blackening; and secondly, that decay of the teeth is found to be prevalent after such disturbances of the general health as are commonly treated by the administration of medicines. The belief that drugs injure the teeth appears, however, to rest upon but slender foundations, the popular prejudice resting upon a basis of "post, ergo propter, hoc." Two classes of drugs would appear prima facie to be a potential source of caries:

(1) Acids, administered internally or used as local applications to the fauces. Very dilute solutions of weak acids, if applied continuously, have been shown by experiment to appreciably destroy the enamel. But in the mouth acid medicines and gargles are not applied continuously, but very intermittently and in the case of fluids,

mostly to the exposed surfaces, which are constantly washed by the saliva. All modern research tends to prove that the acids really injurious to the teeth are those generated in situ, in places which do not admit of natural cleansing, by the fermentation of the remains of carbohydrate foods.

(2) Mercury. Mercurials when administered in infancy have been credited with the production of hypoplasia of the teeth, the so-called honeycombing. The evidence for this is far from convincing. If, however, the point be proved, it would be an instance of a medicine causing predisposition to decay, to which hypoplastic teeth are very liable. Mercurials administered in large doses have long been known to cause well marked disturbances in the associated tissues, the gums, and even bone. It is conceivable that mercury acting in this way, where there has been actual ulceration and permanent loss of tissue, may cause a predisposition to caries at the necks of the teeth. Lead, bismuth, silver or copper, being drugs partly excreted by the oral mucous membrane, have been credited with occasionally producing effects similar to mercury in septic mouths.

The only treatment for the correction of the effects of these drugs, if any is required, seems to be to maintain complete cleanliness of the mouth, and to neutralize the effects of acids taken by the immediate use of an alkaline mouth wash.—British Medical Journal.

Miscellaneous.

"Successful Medicine."

To the Editor of the Charlotte Medical Journal:

With your kind indulgence I want to bring an important message to your readers. I am going to alternate my bi-monthly journal "Physiologic Therapeutics" with "another new journal" which will bear the attractive title "Successful Medicine." I believe that many of your readers will welcome this new journal, as it is to be a journal of commercial medicine, devoted solely to that side of practice which directly concerns the dollars and cents, published with the main idea of making its readers better-paid practitioners than mere brick layers or other skilled laborers who gain their skill with comparatively little sacrifice and who earn more than the average physician.

The financial side of practice is mighty important. They talk about the "science of medicine" and the "art of medicine," but if I am not badly mistaken the dollars-

and-cents side of medicine has been lightly considered. Not, mind you, that the scientific and altruistic side of the doctor's work is depreciated—far from it. Medicine to-day—as always—is filled with honest, scientific workers, and with men ever ready to help "the under dog" when opportunity affords; but think of \$700 a year as the income of the average American physician! Remember, too, that medicine unfortunately takes no note of the eight-hour law.

"Successful Medicine" will deal with the problems of the physician in his office, and especially with those which concern the business of getting results and the money for it. It will be published bi-monthly, beginning in September. It will be regular magazine size with a minimum of 48 pages, and the price will be only twenty-five cents a year! Since this journal will be devoted to such an important phase of medicine, surely every reader of the Charlotte Medical Journal must be interested. How many will subscribe probably in advance of publication?

Cordially yours,

HENRY R. HARKOWER, M. D.
60 W. Randolph St.

Summer Cases.

Conditions peculiar to the season now with us will present themselves for your consideration and a reference to the fact that Antiphlogistine has proven of particular service in sunburn, bee stings, insect bites, sprains, bruises, etc., will offer you a ready and satisfactory dressing and is procurable in all drug stores.

In those severe cases of dermatitis following undue exposure to the sun's ray, Antiphlogistine will quickly reduce the inflammation and the accompanying swelling and pain.

In all cases it should be applied thick and hot and well protected by ample covering.

The Second Summer.

Experience has shown that during the second or "teething summer" weakened stomachs are strengthened, faulty metabolism is corrected, fatigued heart and circulation is supported, and many a tired, worn-out nervous system is restored to its proper tone by the systemic and intelligent use of small doses, 20, 30 drops, according to age, of Gray's Glycerine Tonic Comp.

Modern Martial Therapy.

Amid the veritable swarm of new medicinal agents of all varieties that have been introduced to the therapist during the last twenty years, and in spite of the great advances in general medicine during the same

period, there has not as yet been proposed any remedy which can successfully compete with iron in the treatment of anemic and generally devitalized conditions. This metallic element, in one form or another, is still the sheet anchor in such cases, and when intelligently administered in proper form and dosage can be depended upon to bring about marked improvement, provided serious incurable organic disease is not the operative cause of the existing blood impoverishment. The form in which to administer iron is, however, very important. The old, irritant, astringent martial medication has had its day, and properly so. Probably the most generally acceptable of all iron products is Pepto-Mangan (Gude), an organic combination of iron and manganese with assimilable peptones. This preparation is palatable, readily tolerable, promptly absorbable, non-irritant and still distinctly potent as a blood builder and general tonic and reconstructive.

Pollomyelitis and Herpes Zoster.

Garrow notes the wonderful analogy that exists between these diseases, looked at from every point of view, and the fact that they were simultaneously epidemic in a certain district raises the question, may they not be dependent on the same infective process, attacking the anterior horns of the spinal cord in the one case and the posterior root ganglia in the other? In other words, are not infantile paralysis and shingles one and the same pathological entity?—British Medical Journal.

Presence of Gonococci in the Blood in Gonorrhea.

Filipo Lofaro shows that researches have been made to prove that gonorrheal arthritis is directly caused by the presence of the gonococcus in the joints. It also has been proven that the usual complications of gonorrhea are but new localizations of the germs. The author made a study of the presence of the germs in the circulating blood in 67 cases of acute and chronic nephritis. He demonstrated the presence of the germs in the blood in 58 per cent. of these cases. They were not present in the acute cases, but in the chronic cases, in which there was greater virulence of the germs or deeper lesions, the gonococcus was present. The author does not know how these germs penetrate from the urethra into the blood, but supposes that in more severe cases they crowd the lymphatics, and in this way get into the blood.—Il Polinico.

If the Stomach were a Sack.

If the stomach were a sack into which

uncooked foods and nauseous drugs might be thrown and be digested and absorbed into the system—then there could be no objection to plain crude cod liver oil. The stomach would use it just as it would the uncooked food. But since the stomach is not a sack, but happens to be a delicate organ which will resent harsh treatment, uncooked food, nauseous drugs and plain crude cod liver oil are not good for it and against them it rebels. Our common sense warns against uncooked food; deference to the patient's taste guards against the administration of disagreeable drugs, and the manufacturing chemist has made it possible to give cod liver oil in palatable form. Hagee's Cordial of the Extract of Cod Liver Oil Compound is the most efficient and palatable of the cod liver oil preparations and its great value as a tissue food has won for it wide use at the hands of physicians.

Sedating a Turbulent Brain.

When a physician remembers that Neurosine is a well balanced formula, contains no opium, chloral, morphine or cocaine, each fluid ounce representing 40 grains each of the chemically pure bromides of potassium, sodium and ammonium; one grain of the bromide of zinc; 32 grains of the extract of lupulus; 40 minims fluid extract caseara sagrada; .075 grains each of the extract of hebane and belladonna; .60 grains of cannabis indica; .060 grains oil of bitter almonds and five per cent. alcohol with aromatic elixirs, he will at once appreciate its excellence as an anodyne and soporific. Each constituent of Neurosine possessing positive therapeutic properties, lends aid to its congeners and contributes to make the whole the most efficient calming agent at the physician's command. Whilst Neurosine is employed for a host of purposes and in a wide range of conditions, it may be said that its power to sedate a turbulent brain and to allay extreme nerve irritability, gives it distinctive qualities and raises it, head and shoulders, over anything else in the same department of therapeutics. For procuring rest during typhoid or other fevers, or soothing a woman experiencing the nervous trials attendant upon her peculiar monthly function, Neurosine will give the best of results. Its palatability and the ease with which it may be taken over long continued periods eminently qualifies Neurosine to take a leading role in the treatment of epilepsy and it is particularly recommended for this condition.

Again the Hay Fever Problem.

Whatever else happens, or fails to happen, here is somemore that always bobs up

at the appointed time. Taxes are not this problem to solve. The trouble is, it doesn't stay solved. The long-looked-for hay-fever specific has not yet arrived. Undoubtedly the most successful way to treat hay fever is to send the patient where he will not be exposed to the particular pollen to which he may be susceptible—to prescribe a seavoyage, for instance, or a change of climate. In this manner temporary immunity, at least, is obtainable. Unfortunately, very few patients, comparatively, have at their disposal the necessary time and means for travel. In nineteen cases out of twenty the physician must fight the intractable disease with such weapons as pharmacology and pharmacy have placed in his hands.

Of the remedial agents in the possession of the medical profession the suprarenal substance has proved itself by far the most efficient. While not attaining to the dignity of a specific, it is at least a satisfactory palliative. It successfully antagonizes the symptoms of the disorder and gives the patient a temporary comfort that is not to be despised. It is probably best used in the forms of Adrenalin Chloride Solution, Adrenalin Inhalant, and Anesthone Cream.

The two preparations first named—the former diluted with four to five times its volume of physiological salt solution, the latter with three or four times its volume of olive oil—are sprayed into the nares and pharynx. Any good atomizer that is adapted to oily or aqueous liquids (preferably, however, one that throws a fine spray) may be used. As to the comparative value of the preparations for the purpose named, it may be said that the Solution "takes hold" more promptly, while the astringent effect of the Inhalant is more lasting.

Anesthone Cream is a much newer product, having been introduced to the profession, if we mistakes not; in the early months of 1910. Nevertheless it made a great record for itself during the hay-fever season of last year. Few medicinal preparations, indeed; make their debut so auspiciously. The formula came from a prominent practitioner of the Hague, Holland, and combines Adrenalin Chloride and Para-amido-ethyl-benzoate in a bland oil base. Right here some reader may inquire: "What is Para-amido-ethyl-benzoate?" Ask Parke, Davis & Company. They have printed matter which answers this very question. Write for it. Write the company, too, for its literature on hay fever, addressing your request to the home offices in Detroit, Mich. and mentioning this journal. You will get some useful and interesting information.

Erysipelas in Babies.

Milhut and Stevenin describe two atypical forms of erysipelas that are seen in infants and that are generally fatal in spite of their apparent innocence. The first consists of what appears to be a simple edema which changes its position rapidly. If carefully examined a faint rosy line of demarcation may be found. On the same child may be seen patches of edema, of erythema, and of desquamation. The fever is slight and the general condition little affected. Streptococci may be found in the fluid from the edematous patches, which forms a good culture medium. The second form of erysipelas consists in the formation of a small abscess, which heals after incision, to be followed by a succession of other abscesses in other locations. In infants under three months of age these symptoms almost always result fatally.—*Le Progress Medical*.

Prophylaxis Against Syphilis.

Guird considers the practical methods of prophylaxis against syphilis. After a suspected coitus, friction with the calomel pomade of Metchnikoff gives only a relative guarantee of immunity, since it does not prevent extragenital infection and influences only the superficial parts of the organ. A simple inunction preceding coitus appears to the author to be much more practical, since the infectious microbes, before reaching their destination, must pass through a thick coating of pomade. This inunction renders traumatic excoriations much less likely, and envelops them with a protective barrier which is effective against the pathogenic organisms. Neither inunction nor friction can be regarded as an infallible preventive against contagion. Still they act as a great protection against the microorganisms. The author advocates the systematic use of such protectives against syphilis.—*Journal de Medecine de Paris*.

The Treatment of Hydrophobia by Rabies Vaccine.

Until recently, it has been necessary to send patients exposed to hydrophobia to a Pasteur Institute (in many instances located in a far distant city) for prophylactic treatment. The Hygienic Laboratory of the United States Marine Hospital Service devised a method of administering rabies vaccine, whereby it could be prepared at a central laboratory, according to Pasteur's method, and distributed to any part of the United States, allowing the patient to be treated by his attending physician.

Briefly, the following is Pasteur's method for preparing rabies vaccine: The spinal

cord of a rabbit—dead of rabies as result of an injection of a "fixed virus"—rabies vaccine known to kill within a fixed time) is removed under aseptic conditions. A cord containing the rabies virus is suspended over a layer of potassium hydroxide and kept at a temperature of 22 degrees C. from one to eight days. The virus is gradually weakened or attenuated as the cord is dried, the strength being decreased in direct proportion to the extent of the drying.

In the preparation of each injection, a portion of a cord in which the virus has been properly attenuated by drying the requisite number of days is taken and emulsified by grinding under aseptic conditions with a weak solution of glycerin. The emulsion of rabies virus thus prepared constitutes the first dose.

The second dose is prepared in the same manner from a portion of the cord which has not been attenuated to the same degree, and each subsequent dose is prepared in like manner from cords containing virus of increasing potency.

The technique of the administration is quite as simple and safe as the ordinary hypodermatic injection.

H. K. Mulford Company have built and equipped special laboratories at Glenolden, Pa., and under the personal direction of expert bacteriologists are preparing rabies vaccine after the method of Pasteur.

THE RABIES PREVENTIVE TREATMENT.

The preventive treatment of rabies, as furnished by the H. K. Mulford Company consists of 25 injections of rabies vaccine, the strength of each injection varying in accordance with the plan of treatment adopted by the Hygienic Laboratory of the United States Marine Hospital Service.

Cords with virus of various strengths are kept in constant readiness for preparation of rabies vaccine to meet all emergencies.

ing the injection is to mix the vaccine in the ampul through a special needle, furnished with each syringe, with the physiologic salt solution contained in each syringe, then inject the patient. The technique is as simple as an ordinary hypodermatic injection.

Special Caloris Vacuum Bottles are used in the shipment of each day's supply of vaccine, insuring its receipt in a satisfactory condition.

Preventive treatment by rabies vaccine should be started as soon after exposure as possible. After symptoms have fully developed there is no hope for relief, as a cure for hydrophobia has not been discovered. The period from the exposure to the development of the symptoms of hydrophobia is known as the period of incubation. This varies from eight days to six months under natural conditions, although occasionally cases are reported where the incubation period is much longer.

Immediately following exposure, every precaution should be employed until it is proven that the suspected animal did or did not have rabies. Aside from cauterizing and otherwise treating the wounds, arrangements should be made at once for the use of rabies vaccine in the form of preventive treatment prepared after the method of Pasteur.

If the animal responsible for the wound or infection is alive it should be kept securely under observation for at least two weeks. Infection may follow from the bite of an animal apparently normal at the time of biting. Not until it is definitely known that the animal has rabies should it be killed. After the animal is dead, its head should be removed and sent to a State or municipal laboratory equipped to properly examine the brain for evidences of rabies.

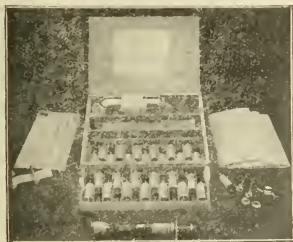
If proper precautions are taken and the patient immediately given the Pasteur treatment, the fatality from this terrible disease may be virtually reduced to a minimum.

According to statistics rabies is more common in the summer months, therefore at this season of the year, with danger of mad dogs running amuck, the method of supplying rabies vaccine so that the physician may administer it to his own patients is of particular interest to our readers.

Full and complete literature on rabies vaccine will be mailed by H. K. Mulford Company, of Philadelphia, upon request.

Buttermilk Grows in Popularity.

The outlook is that buttermilk will be consumed in greater quantities than ever this summer. One druggist after another is adding it to his fountain drinks and also



The vaccine is furnished in ampuls and all the physician is required to do in mak-

selling it in jars on doctors' prescriptions.

There are good reasons for this increasing popularity of buttermilk. Today it can be made quickly and easily in any kitchen. The Abbott Alkaloidal Co., of Chicago, put out a special tablet which, in from 16 to 24 hours, will convert a quart of sweet milk into a buttermilk that is better than the best ever made in a churn and is more wholesome because it contains all the fat of the milk—the fat that ordinarily goes into butter.

Abbott's Buttermilk Tablets are new on the market and are intended solely for the purpose of making buttermilk. They are better and cheaper than any such tablet that has been offered before. They cost a third less and make a pure and delicious buttermilk in half the time others require. A sample package (enough to make four quarts) can be had for the asking.

Buttermilk, so made, is an excellent food in gastritis, typhoid fever, and other diseases in which ordinary foods are not well borne; it is also a good food for infants in lieu of mothers' milk. It is said to postpone senility and to clarify the skin. It is a refreshing and wholesome beverage for all, sick and well alike, especially in hot weather. Also, it contains lecithin and on this account is considered to be a good "nerve tonic." A fine cottage cheese can be made from it, and buttermilk biscuits, and other good things to eat for invalids and dyspeptics.

State Board Examination Questions of South Dakota.

ANATOMY, HISTOLOGY, AND EMBRYOLOGY.

1. Give a histological description of a hepatic lobule.
2. What is the embryonic origin of (a) the kidney, (b) the lungs, (c) the eyeball.
3. Describe the pancreas.
4. Give histological description of a pulmonary alveolus.
5. What displacement occurs in a fracture of the femur at the junction of the middle and lower thirds? Why?
6. Describe the ankle joint.
7. Describe the diaphragm.
8. Describe the small intestine.
9. Name the muscles of respiration. Give origin and insertion of any two.
10. Name the abdominal viscera that are (a) completely, (b) partly, (c) without peritoneal investment.

PHYSIOLOGY.

1. What action has the gastric juice on the carbohydrates and fats?
2. Give the composition, reaction, and uses of blood.
3. Describe the red blood corpuscles and

give their best known and most important function.

4. Describe the fetal circulation.
5. Name the erectile tissues of the body and explain their function.
6. What digestive changes take place (a) in the small intestines, (b) in the large intestines?
7. Describe the sphygmograph and state its use.
8. How do arteries, veins, and capillaries differ as to function and structure?
9. Define emulsification and saponification and give examples of each.
10. What is an (a) efferent nerve, (b) afferent nerve? Give illustrations of each.

CHEMISTRY.

1. Give a test for sugar in urine.
2. Give a common name for the following formula: H_2O_2 , CHCl_3 , CH_4O , $\text{C}_2\text{H}_5\text{OH}$.
3. In what different compounds is sulphur found in nature?
4. What decompositions occur in the preparation of chlorine from rocksalt?
5. Give chemical name and formula for lunar caustic.

BACTERIOLOGY.

1. What kind of bacteria are most commonly found in suppurative processes? (b) Describe them.
2. What are the three subdivisions of the colon typhoid bacillus group?
3. What do you understand by (a) phagocytes? (b) blastomycetes? (c) thermal death point? (d) antiseptics? (e) disinfectants?
4. Describe a diphtheritic throat. How would you obtain a culture?
5. How would you dispose of the excreta of (a) typhoid patient? (b) tubercular patient?

PATHOLOGY.

1. What are lymphocytes? poikilocytes? blood plates?
2. Give the blood changes in myelogenous leukemia.
3. What conditions are induced by (a) atrophy and (b) hypertrophy of the thyroid?
4. Give the pathology of cancrum oris.
5. Differentiate septic intoxication and bacteremia.
6. What are local infections?
7. Describe the intestinal lesion of typhoid.
8. What is an antitoxin?
9. The pathology of psoas abscess.
10. Define immunity.

THERAPEUTICS AND PRACTICE.

1. Describe three of most common intestinal worms and give treatment for one kind.

2. Describe and treat rickets. What is marasmus and scorbutus?

3. What are the contraindications of veratrum viride? What is its therapeutic value?

4. How would you distinguish between autotoxemia and acute ptomaine poisoning?

5. Describe symptomatic difference between tetanus and strychnine poisoning.

6. Differentiate acute alcoholism, apoplexy, and epilepsy.

7. What is arthritis deformans? Give diagnosis and prognosis.

8. Describe and treat hemicrania.

9. What are the differences in the physical signs of mitral incompetency and functional systolic murmurs?

10. Define briefly: Aphasia, apoplexy, thermic fever, myalgia, fever, parotitis, septicemia, pyema, pachymeningitis.

OBSTETRICS.

1. How would you treat vomiting of pregnancy? Give etiology.

2. Tell what you know about toxemia of pregnancy.

3. Diagnose and treat a case of placenta prævia, being called after mother is in labor.

4. Make an accurate diagnosis of a vertex presentation.

5. Give three main rules for the treatment of uterine inertia in labor.

6. Give immediate diagnosis and treatment of lacerations of perineum after labor.

7. How and when would you be justified in inducing labor?

8. Describe the application of forceps.

9. What is a cystic mole? Give cause for its formation.

10. When would you use chloroform in labor?

DISEASES OF WOMEN.

1. Give causes and treatment of pruritis vulvæ.

2. Differentiate appendicitis and ovaritis.

3. Etiology, diagnosis, and treatment of pyosalpinx.

4. What are the indications for hysterectomy? Describe one operation.

5. Give in detail your treatment for complete rupture of the perineal body with accompanying rectocele and procidentia uteri, in a woman past the menopause.

SURGERY.

1. Give diagnosis and treatment of strangulated inguinal hernia.

2. Diagnose and give treatment for cholelithiasis.

3. Diagnose and treat simple fracture of clavicle.

4. Diagnose and treat fracture of femur at the junction of upper and middle thirds.

5. How would you manage case of fecal fistula following appendiceal abscess?

6. Give diagnosis and treatment of hemorrhoids.

7. Given severe crushing injury for leg with shock—give treatment in detail.

8. Give diagnosis of and treatment for postoperative ileus.

9. Give diagnosis and treatment of carbuncle.

10. Give diagnosis and treatment of acute suppurative appendicitis; in case you operate, what incision would you make and why?

EYE, EAR, NOSE, AND THROAT.

1. (a) Diagnose and treat case of iritis.

(b) Diagnose and treat case of keratitis.

2. Name and describe four errors of refraction and treat each. If lens is prescribed, be definite.

3. Give treatment and prognosis of severe burn of eye involving lid and ocular conjunctiva.

4. Give treatment in well marked case of nyctipon.

5. Differentiate between diphtheria and follicular tonsillitis and treat case of follicular tonsillitis.

6. Diagnose and treat a case of hypertrophy of pharyngeal tonsil.

7. Describe the Eustachian tube, giving anatomy and function.

8. Draw diagram illustrating cross-section of nose, showing turbinal bodies, and treat a case of hypertrophy of inferior turbinate.

9. Give etiology, symptoms, and treatment of empyema of frontal sinus.

10. Give three common causes of deafness and treat a given case.

SKIN AND GENITOURINARY.

1. Give symptoms, diagnosis, and treatment of a beginning erysipelas of the scalp in an infant one year old.

2. Diagnosis and treatment of erythema multiforme.

3. Diagnosis and treatment of lupus vulgaris.

4. Diagnosis and treatment of perniones.

5. Etiology, diagnosis, and treatment of acne vulgaris.

MEDICAL JURISPRUDENCE.

1. Give signs of death by drowning.

2. What are the duties of a coroner upon receiving notice that a dead person has been found in his jurisdiction?

3. State the method of procedure, in this State, to procure the commitment of a person to the hospital for the insane.

4. In making a microscopic examination of bloodstains, what characteristics would lead you to believe they were produced by human blood?

5. What conditions, from a legal standpoint, would justify the induction of premature delivery?

HYGIENE AND SANITARY SCIENCE.

1. Give in detail the method you would use as health officer in controlling diphtheria epidemic.

2. Is infantile paralysis infectious? If so give rules for protecting the community.

3. Give incubation period of (a) scarlet fever; (b) diphtheria; (c) variola; (d) measles.

4. Give hygiene and general care of the patient to prevent infection of attendants and others in close contact with patient suffering from pulmonary tuberculosis.

5. Give general directions for the care of public schools, and care and inspection of school children.

State Board Examination Questions, North Dakota.

ANATOMY.

Answer any five questions:

1. Give the blood supply of the stomach.
2. Outline the heart on the chest wall, giving location of valves.

3. Describe the scrotum with its contents.

4. Describe the lumbar plexus.

5. Give plan of relations between radial and ulnar arteries.

6. Describe the bladder.

7. Describe the lymphatics of the upper extremity.

8. Name the bones of the face.

9. Outline the liver on external surface.

10. Give the relations of the gall-bladder.

HISTOLOGY.

1. Describe blood-corpuscles.

2. Diagram a section of bone and name structures.

3. Give the histology of the skin.

4. Give the histology of the kidneys.

5. Diagram a section of an artery and name structures.

PHYSIOLOGY.

Answer any five questions:

1. How is the regulation of the temperature of the body effected?

2. What is the function of the blood?

3. Describe the respiratory function.

4. What is the normal composition of the urine?

5. Describe the process of digestion.

6. What is the normal pulse rate and what variations are common in disease?

7. Describe the process of ovulation.

8. Describe the portal blood circulation.

9. What is the function of the cerebellum?

10. Define animal life.

CHEMISTRY AND TOXICOLOGY.

1. Distinguish between synthetic and

analytic reactions.

2. Give chemical name and formula of (a) lunar caustic, (b) caustic potash.

3. Give chemical test for pus and mucus in the urine.

4. What do you understand by chemical action? Give examples.

5. Give yeast test for sugar in the urine.

6. Give the chemical antidote for nitrate of silver.

7. Give symptoms and treatment of chronic lead poisoning.

8. Symptoms of poisoning by opium, belladonna, carbolic acid, and caustic potash. Outline treatment in each case.

9. Treatment of poisoning by stramonium, cocaine, and Indian hemp.

10. Give the symptoms of strychnine poisoning.

MATERIA MEDICA.

1. Give source, dose, and therapeutic indications for strychnine sulphas.

2. Give derivation, dose, and indications for atropine sulphas.

3. In case of fermentative diarrhea what result would you expect from the use of magnesium sulphate?

4. Give official name and dosage of (a) tartar emetic; (b) glauher salts; (c) calomel.

5. Give the symptoms and treatment of poisoning by corrosive sublimate.

PATHOLOGY.

1. Define (a) leucocytosis; (b) phagocytosis; (c) regeneration; (d) necrosis.

2. Describe the pathological conditions in alcoholic cirrhosis of liver.

3. Describe the lesions of typhoid fever.

4. Pathology of (a) chronic interstitial nephritis; (b) chronic parenchymatous nephritis.

5. Tell what you know about the formation of a tubercle, also the changes which it undergoes.

PRACTICE.

1. Symptoms and treatment in full for colitis.

2. Differentiate between carcinoma of the liver and hepatic abscess.

3. Diagnose a case of duodenal ulcer and give your treatment in full.

4. Describe the changes occurring in lung tissue in lobar pneumonia; symptoms and treatment.

5. Causes, symptoms, and treatment of empyema.

6. Symptoms and treatment in full of chronic interstitial nephritis.

OBSTETRICS.

1. Describe your first case of labor.

2. What is the occasion of version and how is external version before labor performed?

3. The induction of premature labor, is it ever necessary, and what are the indications for doing so?

4. When should a miscarriage be induced?

5. Give your method of removing the placenta after a normal labor and describe the attention you give the mother and child respectively.

6. What complications may arise after the birth of the foetus?

DISEASES OF WOMEN AND CHILDREN.

1. Give diagnosis and treatment of cystocele.

2. Give symptoms of laceration of the cervix of long standing.

3. Give causes, diagnosis and treatment of acute salpingitis.

4. What is dysmenorrhœa? Give causes and treatment.

5. Describe an operation for repair of ruptured perineum.

6. Diagnosis and treatment of scarlet fever.

7. Give your method of feeding a three months old infant deprived of mother's milk.

8. How would you treat a case of dysentery in a child?

9. Symptoms and treatment of capillary bronchitis.

10. Treatment for constipation in infants.

SURGERY.

1. What is a hydrocele? Give diagnosis and treatment.

2. Give diagnosis and treatment of empyema.

3. Give diagnosis and treatment of acute osteomyelitis.

4. What is surgical shock and how would you treat it?

5. Describe the different dislocations of the shoulder joint and give methods of reduction.

NERVOUS DISEASES.

1. Give the general causes and reflex cause of neuralgia.

2. Differentiate between (a) neuralgia and the headache of anæmia; (b) neuralgia and osteoscopic pains; (c) neuralgia and clonus hysterics.

3. What effect has idleness on epileptics? Does labor aggravate the trouble? Your advice as to marriage to those who become epileptic at puberty; what treatment is effective?

4. What is chorea, its etiology, pathology, diagnosis, prognosis, treatment?

5. What are the causes of paralysis and how many kinds are there? What is the origin of hemiplegia? Paralysis follows what infectious diseases?

PREVENTIVE MEDICINE.

1. Give cause of infantile paralysis and your measures to prevent its spread.

2. How long would you quarantine a diphtheria case and how prevent infection of others?

3. What prophylactic measures do you use in the care of a typhoid case?

4. Define smallpox, giving incubation period and discuss value of vaccination of exposed persons?

5. What is your method of disinfection in case of scarlet fever, before lifting quarantine?

MEDICAL JURISPRUDENCE.

1. By what authority does the State Board of Medical Examiners for the State of North Dakota organize and act, and what are their duties and powers?

2. What is malpractice, and give the statutory limitation for the prosecution of an action against a physician and surgeon for malpractice in this State.

3. Has the Governor of this State power to revoke the license of a physician and surgeon practicing medicine and surgery in this State without consulting with or obtaining approval of the State Board of Medical Examiners?

4. What is the penalty for practicing medicine and surgery in this State without first obtaining a lawful license from the State Board of Medical Examiners authorizing the recipient to practice medicine and surgery in the State?

5. What is the duty of an attending physician in cases of attendance upon patients afflicted with contagious diseases; in case of death of patients; and in respect to births, as fixed by the statute in this State?

EYE AND EAR.

1. Causes, symptoms, and treatment of ophthalmia neonatorum.

2. Causes, symptoms and treatment of iritis.

3. Causes, symptoms and treatment of glaucoma.

4. Treatment of blepharitis marginalis.

5. Define astigmatism, myopia, hypermetropia, diplopia and chalazion.

6. Treatment of acute otitis media.

7. Symptoms and treatment of acute mastoiditis.

8. How do you remove foreign bodies from the ear?

9. How relieve pain in furunculosis of auditory canal?

10. Describe fully effect of nasopharyngeal adenoids upon the ear, and its function.

The Significance of Roentgen Examination for the Diagnosis of Carcinoma of the Stomach.—Faulhaber (Deut. Arch. Klin. Med. Bd. 101, p. 177) discusses the value of the Roentgen rays in the diagnosis of cancer of the stomach, basing his article on eighty-six cases personally observed.

The bismuth meal was used in most cases, but zirkon oxide also gave good results. The presence of a tumor is, for the most part, recognized by a defect in the filling of the organ. In the pylorus, the most frequent site of the growth, interference with the regular peristalsis is a sign of much value, particularly as this region varies considerably in site, form, and size in different individuals. Very small growths are not likely to be detected, but it is probable that a growth the size of a walnut might be observed. The smallest tumor observed by the author was four to five cm. in diameter.

In all cases, when a clinical diagnosis was possible, the Roentgen examination gave a positive result. There is the further advantage of localizing the growth and of estimating its extent. A palpable tumor of the stomach may have its site on very different portions of the organ, and its exact position, whether in the smaller curvature, or pylorus, or elsewhere, can be accurately determined only by the Roentgen method. The great advantage of the examination is best seen in a comparison of cases in which the clinical diagnosis is doubtful, thirty-one per cent. of the writer's cases falling in this class. Even when the usual evidence of the disease is present, the absence of a palpable tumor is frequently an important lack in the evidence, for it is indeed the most important of all the clinical signs. It is just in these cases that the Roentgen examination proves most useful. When the site of the growth is indicated by the skiagram, the observer is often able to palpate it, or the mass can be felt when standing, or on forced inspiration.

In 14.3 per cent. of his cases, the observer was able to make out the presence of tumor when his touch was aided by the additional information obtained by the picture of the growth. In a larger number of cases, 30.4 per cent., a growth was detected when it proved impossible to feel one. This observation certainly establishes the Roentgen method as of high value, the presence of a tumor being proved when it could be recognized in no other way.

Growths at the pylorus can almost always be palpated, but when the mass is not so favorably situated this procedure often proves impossible. In cases of general contraction of the organ from cancerous infiltration, in growths of the fundus, in tumors of the pars media, overlapped by the liver,

and even in pyloric growths concealed by an enlarged liver, the skiagram gives positive information, and enables the observer to recognize definitely the presence of a growth.

The extent and site of the tumor are useful data in determining the advisability of operation, and even more frequently in indicating the non-operability of a given case. Small growths at the pylorus, not adherent to surrounding structures, are the most favorable for medical operation, and the recognition of the existence of such conditions is materially aided by the results of the Roentgen picture. Negative findings are often valuable when abdominal tumors lie in the neighborhood of the stomach. It is often possible to show that they are not connected with this organ, and again there are sometimes symptoms highly suggestive of gastric carcinoma in which this condition can be positively excluded. A series of diagrams of the Roentgen pictures accompanies this review.

Undiluted Citrate Milk.—Mann, in the Guy's Hospital Gazette, explains very clearly the method of feeding infants on undiluted cow's milk which has been for three years adopted at the Evelina Hospital. So great a revolution is bound to excite incredulity, but the author acknowledges himself a converted sceptic, and his list of cases showing the weekly weight of the infants concerned is one which speaks for itself. Only six babies out of his last four hundred have had to be placed upon other forms of diet. Three facts, he says, have to be remembered: that the great stumbling-block to digestion is the casein clot from cow's milk, and that mere dilution does not remove this difficulty; secondly, that the addition of sodium citrate to each undiluted feed leads to the formation of a much less dense clot; lastly, that the bulk of each feed is small, and hence vomiting is much less likely. In practice the mother is provided with a solution of sodium citrate in water containing as many grains in the drachm as there are ounces in each feed. She is told to put a teaspoonful into the milk; to stir and warm until the food is steaming, and then to cool down to the proper temperature. The amount of each feed and the total quantity per diem depend upon the size of the child and not upon its age. At six months and upwards two pints in twenty four hours can be taken by many children; but even at a month and less still there is ample evidence in the Dr's. statistics to show that small infants can thrive remarkably well on this undiluted citrated cow's milk.

Sacral Anesthesia in Gynecology and

Obstetrics.—Schlimwert and Schneider (Munch. med. Woch.) have made use of this method of anesthesia in 155 obstetrical and gynecological cases. As a result of their experience they recommend its use in the simpler operations of labor and gynecology. The technic is somewhat difficult in fat persons, and in these it is better not to attempt it. The use of this method has not been attended, in the experience of the authors, with any inconveniences. It is recommended in prolapsus operations, repair of the perineum, hemorrhoids, and other operations on the external genitals. In obstetrics it may be used in operations on organs supplied by the sacral plexus, such as forceps, perineum repair, etc. It is advised, combined with scopolamin-morphin sleep in sensitive patients who wish to feel no pain throughout labor. With a sitting position and the use of a 2 per cent. solution the anesthesia lasts about twenty minutes. With a 1 per cent. solution and elevated pelvis anesthesia comes on in from five to fifteen minutes and lasts about one hour; with a 2 per cent. solution its duration is two hours; anesthesia begins in the buttocks and extends forward and backward into the labia and mons veneris. With elevated pelvis it reaches to the navel. In labor the pain of the contractions is removed for about an hour and a quarter, but after that time it returns and either another injection must be given or another anesthetic employed to prevent remembrance of the pain.

Sexual Element in Neurasthenia.—

Macnaughton-Jones, in the London Practitioner, describes the 67 symptoms of neurasthenia thus: (1) Psychoses: shown in such symptoms as irritability and capriciousness; restlessness; disinclination for exertion (physical or mental) in work or amusement; loss of power of concentration; forgetfulness, sensation of unreality, feeling as if an arm or limb "were not there"; unusual apathy; moroseness; fanciful ideas of ill-health generally of some special organ—commonly the heart or stomach. Minor degrees of agoraphobia and claustrophobia; insomnia, development of erratic tendencies dyspareunia, and repulsion towards marital relations. (2) Physical symptoms, subjective: Pain—exaggerated, causeless, diversified, transitional and shifting, aroused by suggestion and often relieved by it; headache, hemicrania; pain in the left lower costal region; in the lumbosacral junction; over the ovaries, in the neck of the bladder, during or after micturition; in the anus and coccyx; in the throat, when swallowing or speaking; dental neuralgias;

throbbings and noises in the head and ears; hyperaesthesia acustica; globus hystericus. (3) Physical symptoms, objective: Various pharyngeal and laryngeal neuroses in which dysphagia or troublesome attacks of spasmodic cough occur; changes in the character of the voice and possibly complete aphonia; periodical turgescence (often unilateral) of the turbinals, susceptibility to "hayasthma;" various types of migraine (more commonly ocular); intolerance of light, ocular fatigue and slight amblyopia (refraction and ophthalmoscopic signs being normal); cardiac rhythmic disturbance and palpitation; rapid respiration, "catching of the breath" and proneness to syncope; epigastric pain and sickness with flatulent distension, morbid cravings and so-called "stomach cough;" mammary sensitiveness and turgescence; vasomotor disturbances in the skin, especially of the face, such as flushings, morbid blushing, periodical pigmentary changes, hyperaemias and perspirations; other vasomotor disorders, as burning in the hands and feet, and icy coldness of the extremities. He is of opinion that capriciousness, irritability, selfishness, restlessness, and excitability are among the mental characteristics which stamp in the child the prototype of the neurasthenic and hysterical woman. Parentage, surroundings, and education largely influence precocity and the psychic forces that then come into action. From 19,000 records of the age at which menstruation commenced, Engelmann came to the conclusion that "the educational status" indicating "more or less luxury under the highest mental and social stimulus" is "the environment which awakens the nervous system to an early activity." Race and climate, according to him, has little influence on precocity. The Dr. approvingly refers to the custom of the American Indian who "isolates the girl on the first appearance of the flow" removing her from all arduous duties and excitement into more salubrious surroundings where she learns the importance of the change in her life. The writer is not aware of our Indian custom of isolation not only on the first appearance of the flow but every time the flow appears. Dr. Macnaughton-Jones cites cases of neurasthenia due to the derangement of sexual functions cured by operations.

The Administration of Tuberculin.—

Latham (British Journal of Tuberculosis) believes most emphatically in the beneficial results of tuberculin in tubercular disease and he has come to this conclusion as a result of his observations on some hundreds of cases. Some cases recorded by him show what he calls the amazing value of

the treatment. He stated that tuberculin therapy has many failures to record, but his own belief is that given an early case of any form of tuberculosis, and proper tuberculin treatment, the percentage of good results obtained will compare favorably with those obtained by any form of treatment in any disease. So far his personal experience is confined largely to the use of tuberculin T. R. Tuberculin therapy is not easy, for great harm results from injudicious dosage or spacing of the doses. The author is content to be guided by a consideration of the temperature and the clinical symptoms. The great point is not to be in a hurry. He commences with infinitesimal doses, and then proceeds more cautiously still. He usually gives the dose by the mouth on an empty stomach before breakfast, and he has proof of the efficacy of this method. It is the more convenient in hospital and general practice and in the case of children. In some cases, such as those of lupus, he prefers the hypodermic method of administration.

Cystoscopy of the Serous Cavities.—

Jacobeus (The Hospital, London) has conceived the idea of making a direct inspection of the peritoneal and pleural cavities by means of a cystoscope. He uses a trocar and canula, and a cystoscope of Nitze which is sufficiently small to pass within it. The Dr. first makes a small incision in the skin and passes in the trocar, empties the cavity of fluid, and insufflates air by means of a Politzer air-pump. He then introduces the cystoscope, which is fitted with a valve to prevent the air escaping. The manœuvre is easier in the case of the pleura than of the peritoneum, on account of the danger of injury to the viscera, but experiments on the cadaver have shown that the introduction of the trocar does not involve the risk of injury to the intestines, even when there is no ascites. The author has been able by this means to observe the presence of hepatic cancerous nodules, of perihepatitis, peritoneal congestion, cancerous nodules of the intestine, and to study intestinal peristalsis. In the case of the pleura he has not been able to detect definite lesions, but hopes to succeed in doing so with more dexterity. He is of opinion that "laparoscopy" and "thoracoscopy" should furnish useful data, comparable in some degree with those of exploratory laparotomy. Considering, however, the somewhat complicated and difficult technic and manipulation, and the very limited range of observation obtainable even in the most favorable circumstances, it may be doubted whether the method offers any but a very limited field of usefulness.

The Suprasympphysis Cesarean Section in Practice.

Micheli gives the technique of the suprasympphysis operation for Cesarean section: incision of the abdominal walls in the sub-umbilical region down to the peritoneum, separation of the peritoneal layer from the posterior face of the bladder and anterior portion of the fundus uteri, longitudinal incision of the uterus, removal of the fetus, suture of the uterus, and closure of the abdomen. When there is no possibility of a normal delivery of the fetus by the natural passages, on account of contracted pelvis, but there is an open amniotic sac and danger of an infected peritoneum, the classical section becomes impossible. Premature labor, podalic version, forceps, and craniotomy have given place to other measures. Version and forceps are of little value in contracted pelvis, since only in minor degrees of contraction can they be useful. The suprasympphysis Cesarean section will take their place. This operation is indicated in delivery for eclampsia and in central placenta previa.—*Rivista Ospedaliera.*

Citrate of Soda in the Vomiting of Infants.

Variot advocates the use of the citrate of soda, not only for modifying milk so as to render it more digestible, but also for preventing vomiting in all sorts of infantile troubles. It has the effect of quieting the muscular peristalsis of the stomach. It makes no difference whether the child vomits from too much or too little milk, or because the milk does not appear to agree with him. The drug has an almost immediate effect for good, which is astonishing to the mother. It prevents infantile scurvy also. The author gives these statements as a result of personal observations made by him in his hospital service. He uses a solution containing in one tablespoonful 25 centigrams of the drug. It has been found to be perfectly harmless even when given for a considerable period and in large doses. One need not fear that the salts of lime will be precipitated in any considerable quantity by its use.—*Revue de Therapeutique Medico-Chirurgicale.*

Hernia in Children.

In a contribution to *Le Journal de Medicine de Paris*, Dr. Savariaud discusses the question of treatment of hernia in young children. He is strongly in favor of operation at quite an early age, even as young as two. He maintains that this is justifiable because with the disinfection of the skin with tincture of iodine, the use of gloves, and the other usual precautions,

one can make quite sure of a perfect primary union, and, further, the operation on a young child is so simple that it can be carried out in ten minutes, involving no serious risk of shock to the small patient. According to Dr. Savariaud, the operation can be carried out in this space of time without undue haste and without any attempt at surgical acrobatics. He describes his method of operating for inguinal hernia in young children thus: Having found the hernial orifice with the finger, a skin incision is made over it 4 cm. long. The subcutaneous fat is separated down to the cord. No attempt is made to isolate this by dissection, but by pressing on the scrotum the testicle is made to appear in the wound. This is seized and the cord drawn upon and rapidly isolated with the finger. By stretching the cord between two fingers the sac is quickly recognized by its transparency and whitish color. This is isolated with the fingers, without the use of any instrument, and then held with fine forceps and dissected out as high up as possible. Two sutures are placed through the pillars of the inguinal ring and three through the skin, and the operation is completed. For children above four years of age the author performs Bassini's operation, but for younger children he considers the method just described sufficient, and it has the advantage of simplicity and rapidity.—*The Hospital, London.*

Meningitis with Mumps.

Dopter says that meningitis accompanying mumps is not infrequent; it is generally slight and entirely recovered from, but in a few cases is rapidly fatal. It is found when spinal puncture is made that there is a lymphocytosis of the cerebrospinal fluid. Autopsy in fatal cases has shown that there is congestion, and exudation covering the convexity or the base of the brain and surrounding the cranial and spinal nerves. The condition comes on suddenly in the period of defervescence, with fever, headache, stiffness of the neck, and paralysis of the cranial nerves, or neuritic paralysis of the limbs. The prognosis is generally good, but a few cases are rapidly fatal.—*Paris Medical.*

Primary Sarcoma of the Pelvic Connective Tissue.

Mertini says that the loose connective tissue between the layers of the broad ligament rich in vessels and lymphatics is a favorable location for inflammatory processes as well as for growths of all sorts. Fibromata are frequent, sarcomata are less so. The point from which such a sarcoma

arises is not easily demonstrated. They may begin anywhere and go on rapidly infiltrating the surrounding tissues, rising into the abdomen, or descending into the pelvis and causing pressure symptoms in the bladder and rectum, and sensation of weight in the pelvis. Such a tumor may take up the space that should be occupied by the rectum and push down into the vulva and labia. The prognosis of these very malignant tumors is very bad. When operated on they recur almost immediately and when not operated on they cause death from cachexia and pressure symptoms.—*Annali di Ostetricia e Ginecologia.*

Advantages and Inconveniences of Antidiphtheritic Serotherapy.

Pechere, after a careful discussion of the value and disadvantages of antidiphtheritic serum, gives us his conclusions. The neutralizing influence of antidiphtheritic serum against the poison of diphtheria has been shown in therapeutics; the favorable results of the serum when freshly prepared has proven of great value to the human race. Serotherapy has lessened the mortality from 50 per cent. to 12 per cent. The action of the serum is quicker the earlier in the disease it is injected. It has a specific action only against the Klebs-Loeffler bacillus, and not against the complicating bacteria, such as streptococcus, staphylococcus, and pneumococcus. The injection of serum causes at times pathological phenomena, but these are of a benign nature; they are urticarial eruptions, increase in temperature, presence of albumin in the urine, and arthropathies. Their gravity and number are not sufficient to be dangerous to the patient; we should consider antidiphtheritic serum the best treatment for diphtheria, although we should make use of local treatment for the throat at the same time.—*Bulletin de la Societe Royale des Sciences Medicales et Naturelles de Bruxelles.*

The Treatment of Dysmenorrhea.

Drenkhahn has used the following simple treatment with uniform success for the relief of dysmenorrhea: He injects 1-60 grain of atropin dissolved in a cubic centimeter of water into the cervix, and then introduces a dry tampon. If no instruments are at hand, a small cotton tampon moistened with a 1 per cent. solution of atropin and introduced to the posterior fornix acts equally well and promptly. He also claims that the same remedy will afford relief in mild acute or in chronic inflammatory affections of the uterus making douches, sitz-baths and tampons unnecessary.—*Zeitschrift für Gynäkologie.*

Pruritus of the Vulva in Pregnancy.

Rudaux (La Clinique) finds that pruritus is a common trouble among pregnant women, and that it is often so aggravated as to entail loss of rest and sleep, and to induce pronounced nervous irritability. In some cases the cause is without doubt the presence of more or less well-marked discharge, but he has found sugar in the urine of all the pregnant women who have complained of discomfort and irritation of this part. He permits no ingestion of sugar or sweets, and prescribes for them Vichy water as a drink. A local application of hot water, with 10 grams of chloral, is made four times a day, the parts being afterwards treated with an ointment of ichthyol 10 grams, and benzoin. A few days later a powder made up of zinc oxide, bismuth and talc will be found useful. If there is any leucorrhœa a morning and evening douche containing 20 grams of sodium borate is prescribed.

"The only two animal extracts which we know to be capable, under certain circumstances, of reducing corpulence are thyroid extract and pituitary extract. But if we suppose that either one or the other is competent to bring about a reduction of adipose tissue, as such, we shall encounter many disappointments and not a few disasters. In the case of the thyroid, while admitting to the full its catabolic power of stimulating certain forms of metabolism, I make so bold as positively to assert that it is certainly not imbued with that special hatred for fatty tissue with which it has been credited. I am, on the contrary, strongly of opinion that a normal amount of thyroid essence circulating in the blood is favorable to the development and maintenance of a normal amount of adipose tissue: such at any rate has been the conclusion forced upon me by my experience in exhibiting the extract in that very large class of sub-thyroidic patients who are unduly thin. When given in excess, thyroid extract will certainly produce emaciation, but it will concomitantly give rise to such symptoms of intolerance as tachycardia, diarrhœa, and mental unrest, which are properly regarded as the tokens of danger."—The Practitioner, London.

Salvarsan.

Marshall believes that in the present state of knowledge there is no drug which can replace mercury in the treatment of syphilis. Although salvarsan causes rapid healing of certain syphilitic lesions, this effect is not constant and is often only temporary. There is no proof that an abortive cure of syphilis

can be realized by this drug. If salvarsan is indicated at all in the treatment of syphilis it is chiefly in those cases which are not influenced by mercury, but such cases are rare. Moreover, some cases resist the action of both drugs. The administration of salvarsan is attended with many risks and dangers.—London Lancet.

Convulsions After Orthopedic Operations.

About a year ago Dr. Schanz drew attention to the fact that convulsive fits are liable to follow orthopedic operations, especially in young children, which may prove fatal. The hypothesis offered to explain these convulsions was that they were due to fatty emboli caused by the liberation of fat from the bone marrow into the general circulation. On this hypothesis Dr. Schanz proposed to treat the condition by intravenous and subcutaneous injections of saline solution. In a recent communication to the *Deutsche Medizinische Wochenschrift*, Dr. Codivilla puts forward a different explanation of the phenomenon. He has observed nine cases of the condition, and he attributes the convulsions to the excessive tension to which the soft parts of the extremities, including the nerve trunks, are subjected in consequence of the traction often necessary to correct the deformity. Reflexly, this tension of the nerve trunk sets up a condition of excitation in the central nervous system which finds expression in the convulsions. This hypothesis receives confirmation from the experimental research of Dr. Neri. He has been able to produce sudden attacks of convulsions in animals by exercising strong traction on the soft parts of one or both of the lower extremities. In cases in which traction is applied to both limbs the convulsive phenomena are much more frequent and more severe. According to Dr. Codivilla these convulsions are more likely to occur in patients with some neurotic taint, or predisposed to epileptic attacks. From a therapeutic point of view Dr. Schanz's method of treatment with saline injections would appear irrational according to this latest causal theory, although Dr. Codivilla suggests that an increase in the volume of blood might assist the nerve centres by increasing the nutrition and organic changes of the tissues, but he thinks the most important principle of treatment consists in relieving at once the tension and traction on the tissues. He suggests further that in cases in which there is some neurotic taint or liability to epilepsy, any manipulation should be preceded by a course of bromide, and that any extension or traction of the soft parts that may be

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necessary should be carried out gradually.
—The Hospital, London.

Retroversion Flexion in Mental Maladies.

R. Schockert advocates a careful genital examination in every case of mental alienation in women, whether in asylum or private practice. The diseases and displacements of the genital organs have a very marked influence on both the mental and physical condition of the organism. Symptoms on the part of the stomach, intestines, and rectum, as well as the mind are produced by lesions of the genital organs. Hysteria, melancholia, and psychopathies may result from gynecological troubles. One of the lesions that oftenest has this result is retroversion flexion. The author relates the histories of three patients of his, each of whom was relieved of a condition of deep depression, with inability to do any work or be of use to their families, by the performance of an Alexander operation to replace and keep in place the uterus. They became, after the operation, happy and useful women, able to undertake the work of their households and care of their children. Whether the patient is a married woman or a virgin we should not hesitate in case of mental alienation to make a careful gynecological examination.—Bulletin de la Societe Belge de Gynecologie.

Thickened Pleura and Persistent Pleuritic Effusions.—Dieulafoy (La Presse Medical) mentions some cases of this nature and discusses the problem of treatment. The first case was that of a young woman who in the space of two months required paracentesis thoracis 15 times, the total amount of fluid withdrawn amounting to 40 litres. The pleurisy terminated in a cure, but its nature was proved by the subsequent development of pulmonary tuberculosis. The second case was that of a man aged 35, of previous good health, who developed pleurisy with effusion. Subsequently at regular intervals over a period of years he required the withdrawal of fluid from the chest, there being no other evidence of disease. The pleura was evidently much thickened, but still there was a remarkable freedom from symptoms other than those due to the mechanical pressure of the fluid, even though at times during its later stages such fluid has been hæmorrhagic or purulent and fetid. Microscopic examination of the fluid showed the presence of granular leucocytes, endothelial cells, streptococci and pneumococci. The micro-organisms, however, on cultivation were found to be very attenuated in virulence. The third case, that of a man 59 years of age, was of a very similar nature.

For 18 years thoraco-centesis was performed at intervals without incident. Then the fluid became sanguinolent with a large proportion of lymphocytes. The pleura was much thickened, but the existence of the condition seemed to have very little effect on the general health of the patient. There was no sign of pulmonary tuberculosis, and the fluid in this case was proved to be sterile: the nature of the thickening was therefore not explained. As regards treatment, Dieulafoy refers to a method of decortication of the lung practiced by M. Delorme. Before such an operation is undertaken it is, of course, necessary to endeavor to ascertain beforehand the expansibility of the lung, as well as the thickness and resistance of the enveloping pleura, by means of radioscopy and radiography. But in view of the maintenance of good general health, the complete though temporary relief obtained by withdrawal of the fluid, and the danger and risk of failure involved in such an operation, one would naturally reflect seriously before suggesting or undertaking it.

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upon it as his most valuable aid in increasing functional activity. Gray's Glycerine Tonic Comp. exerts an especially beneficial influence on the gastric and intestinal glands, thus stimulating the appetite, improving digestion and promoting assimilation. In all conditions of mental and physical exhaustion accompanied by malnutrition its effects are speedily manifested by an increase in functional vigor and a general improvement in the health of the whole body. Physicians who are not using Gray's Glycerine Tonic Comp. in their cases of general debility are urged to do so and note what really remarkable results they can obtain.

Enterospasm.

Fowler notes that there is a class of patients who present symptoms comprising intermittent attacks of constipation without pain or with slight pain, referred either to the epigastrium or about the umbilicus. These patients may have occasional nausea and vomiting. The symptoms may be confused with chronic appendicitis. These are cases of enterospasm of the large or small intestine.—Long Island Medical Journal.

For the Idolent Stomach.

In describing this pharmaceutical product we can do so best by quoting a prominent physician, who had this to say for Seng: "When the practical application of a drug demonstrates its usefulness, not in one case, but in many cases, as Seng has done for me, I am ready to believe in its therapeutic value. In my experience Seng will stimulate the secretory glands and, after cleansing with necessary eliminants, it will render the alimentary canal physiological. In treatment of digestive derangements, whether primary or symptomatic, I find that in connection with a rational diet and indicated correctives, Seng will stimulate gastric secretion. In anemia and chlorosis, where the motor functions of the stomach are not disturbed, yet there is a decrease in secretion of gastric juices, it is of greatest value as collateral treatment."

Hydrotherapy in Night Sweats of Tuberculosis.

Strasser notes that if hyperidrosis occurring in phthisis is to be regarded as the consequence of a weakening in or change of the mechanism regulating the sweat glands, produced by the specific proteins, then hydrotherapy receives a rational explanation on the basis of its recognized power in combating toxemia.—*Zeitschrift für physikalische und diätetische Therapie.*

Quinine Without Ebriety.

When two such well-known drugs as antikamnia and quinine are offered to the profession it hardly seems necessary to in-

dicate the special classes of affections which call for their use. Antikamnia is unquestionably a perfect substitute for morphine for internal administration. It has complete control over pain, while it is free from the undesirable after-effects of the alkaloid of opium. In cases of malarial fever the combination of antikamnia and quinine should be given. For all malarial conditions, quinine is the best remedy we have. But, associated with this condition, there is always more or less pain, and antikamnia will remove these unpleasant symptoms and places the system in the best condition for the quinine to do its work. There are a number of ailments, not closely defined, which are due to the presence of malarial poison. All such conditions are greatly benefited by the use of "Antikamnia and Quinine Tablets." The antikamnia in these tablets not only relieves the pain, but prevents the ebriety or ringing sensation produced when quinine is administered alone. In headache (hemicrania), in the neuralgias occurring in anaemic patients who have malarial cachexia, and in a large number of affections more or less dependent upon this cachectic condition, the regular administration of these tablets is indicated.—Medical and Surgical News.

Retrospect of Fifty Years Ago.

Reprinted from "The Chemist and Druggist," April 15, 1861.

Fluid Extracts.

Five pages of this issue were devoted to an advertisement by Messrs. Tilden & Co., New Lebanon, N. Y., U. S. A., in which they intimate that they have thought it advisable to conclude arrangements with a London house to act as British and Colonial agents for their manufactures, lists of which are given. These include alcoholic and hydro-alcoholic extracts, or solid extracts; fluid extracts; alkaloids and resinoids; sugar-coated pharmaceutical pills and granules. Tabular lists of each of these are given, and the following is the statement under fluid extracts:

"Fluid extracts represent for each fluid ounce one ounce of the crude material, the exceptions being the compounds prepared according to the Pharmacopœa. It is, therefore, easy to estimate the relative quantity in preparations, compounds, or prescriptions, when the crude material or powder has heretofore been used.

"We do not intend that any variations in their strength shall occur, so far as it is in our power to prevent, and intend that every article shall represent a given quantity of crude material of ascertained average quality.

Fellows_Syrupus Hypophosphitum.

Maxima cum cura commixtus semperque idem.

Compositio prima ante alias omnis.

Reject < Worthless Substitutes.
Preparations "Just as Good."

"They are put up in 16- and 4-oz. bottles, or in bulk in any sized package. If ordered in bulk, a reduction in price will be made. Each package is labelled with directions and dose. The specific gravity of fluid extracts varies with the composition of the plants whence they are derived. In some instances the pound by weight will not measure 16 fluid ounces, and, as our formulæ have, in all cases, been brought to this standard, we use the one uniform standard of 16 fluid ounces, irrespective of specific gravity."

The list that followed comprises the common names of the drugs with their botanical names, and quotations for the fluid extracts in 5 lb. bottles, 1-lb. bottles, and per dozen 4-oz. bottles.

Battle & Co., of St. Louis, have just issued No. 16 of their series of charts on dislocations. This series forms a most valuable and interesting addition to any physician's library. They will be sent free of charge on application, and back numbers will also be supplied. If you have missed any of these numbers, better write Battle & Co. for them before the supply is exhausted.

"Robinson's Lime Juice and Pepsin" is an excellent remedy in the gastric derangements particularly prevalent at this season. It is superior as a digestive agent to many other similar goods. (See page xiv this issue.)

Treatment of a Syphilitic Infant by Administering "606" to the Nursing Mother.

A young woman, aged 19, suffering from syphilis was treated at the skin clinique at the University of Freiburg for specific skin eruptions and large masses of condyloma of the genitals. The Wassermann reaction was positive and spirochetes were numerous. She was confined on the 4th of July of an infant weighing 2400 grms., and having a wrinkled and somewhat shrivelled appearance. No specific symptoms manifested themselves until the 12th of July, when numerous bullæ of pemphigus made their appearance, chiefly on the soles of the feet, and syphilitic onychie developed round the finger nails on each of the hands. Owing to the tendency of other specific symptoms to develop, it was decided to subject the nursing mother to treatment by "606." Accordingly injections of 0.3 g. of arsenoben-zol in an aqueous solution were made in both buttocks. Characteristic reactions followed these injections, but on the third day there was commencing diminution of the size of, and of the discharge from, the con-

dyloma of the mother, and disappearance of the spirochetes. On the tenth day the Wassermann reaction was still present. On the first and second day of the treatment of the mother there was an augmentation of the symptoms from which the child was suffering, but by the end of the third day further development was arrested, followed by a sudden attenuation of all the symptoms. By the fifth day the copper color of the skin was giving place to a more healthy tint. Disappearance of the onychie and of the pemphigus blebs followed, although there was still visible some marginal scabs of the dried up vesicles. While at first the child was unwilling to seize the nipple and cried continuously, it now emptied the breast at each repast. By the 29th of July the child weighed 3900 grms. and presented none of the specific symptoms. It would appear from the foregoing statement that the treatment of the mother by "606" was instrumental in curing the child, though no trace of the remedy could be discovered in the samples of the mother's milk which was carefully analyzed during the progress of the case.—Munch. Med. Wochenschr.

The Influence of Appetite Upon the Stomach Contents.—Fischer (Muench. med. Wochenschr.) says that Pawlow has shown by means of physiologic experiment that the presence or absence of appetite exerts a decisive action upon the flow of gastric juice that follows the ingestion of food. The writers' observations confirm those of other clinicians that the degree of acidity of the stomach contents varies greatly according to the palatability of the test meal. Many patients have such an aversion to the Ewald breakfast or the Riegel dinner, that the stomach contents obtained after their ingestion give an entirely erroneous picture of the true state of gastric secretion. Fischer believes that it is far better to allow the patient to choose his favorite dish as a test-meal, while he has devised a combination of foods that in his experience has proven sufficiently palatable to all patients for practical purposes. While we are not inclined to go quite as far as Fischer and those who have expressed similar views, we have found the manner in which the Ewald breakfast is served to be of considerable influence upon gastric secretion. If it suffices to hand a clinic patient a few slices of toast and a couple of glasses of water, more delicate feeders require a neatly arranged tray, with linen, pretty china and silver.

The Treatment of Ascites by Means of Subcutaneous Drainage.—Paterson, in The London Medical Lancet, has modified

Buckley's Uterine Tonic

Formula: Aletin, gr. 1-12; Bryonia, gr. 1-500; Caulophyllum, Macrotin, and Helonin, each gr. 1-6; Hyoscyamine amorphous, gr. 1-500.

For the complaints of women—the thousand and one aches and pains arising from derangement of the pelvic organs—here is the most generally useful prescription ever put together. The knife and the curette cannot always be dispensed with in these cases, but usually this prescription, with suitable local treatment, (Vaginal Antiseptic and Vaginal Suppositories) will do the work nicely and render unnecessary an operation from which women naturally recoil.

Buckley's Uterine Tonic is positively "the very best for the purpose." Examine the formula! Seldom does it fail to control the symptoms.

Order today; 1000 granules for \$2.25; delivery prepaid when cash is enclosed. Look out for imitations—they are not nearly so satisfactory. Circular on request.

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Absolutely sterile, antiseptic yet non-irritating to the most sensitive tissues, water-soluble, non-greasy and non-corrosive to instruments. "K-Y" does not stain the clothing or dressings.

Invaluable for lubricating catheters, colon and rectal tubes, specula, sounds and whenever aseptic or surgical lubrication is required.

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the procedure of Handley. He uses glass spools, consisting of a short glass tube with a disc-shaped flange at each end. The abdomen is opened in the median line just below the navel and a portion of the omentum resected, to prevent this organ from later occluding the lumen of the tube. At one edge of the wound, the skin is then undermined up to the linea semilunaris and at this point an opening is made into the peritoneal cavity of such a size that the glass spool fits into the opening like a button, being held in place by the flange at each end. The subcutaneous tissue is then sutured to the anterior sheath of the rectus, whereby a closed reservoir results into which the ascitic fluid can drain. The wound is then closed. The immediate result is the formation of a large fluctuating tumefaction, which, however, is soon absorbed, being replaced by a more or less permanent edema. He has used this method in a number of cases of cirrhosis and peritoneal cancer, with satisfactory results.

Skin Disinfection by Means of an Alcoholic Solution of Tannin.—Zabludowski (Deutsch. med. Wochenschr.) has devised a method of sterilizing the hands and the field of operation by rubbing the former two minutes and the latter one minute with a 5 per cent. solution of tannin in 95 per cent. alcohol. It has been positively demonstrated that the eminently successful modern methods of skin sterilization by means of alcohol or of tincture of iodine depend less upon the germicidal than upon the "tanning" action of these substances. This power of tanning the skin, in the way in which leather is tanned, is possessed in a still higher degree by an alcoholic solution of tannin. A series of bacteriologic investigations of areas of skin rubbed five minutes with iodine-benzine-paraffin, four minutes with alcohol-acetone, five minutes with 95 per cent. alcohol and two minutes with 5 per cent. tannin-alcohol, have in the writer's hands, proven that the latter method alone results in nearly or quite complete sterilization. Moreover, whereas all the other iodine or alcohol methods fail entirely if the skin has previously been washed with soap and water, this procedure does not seem in the least to interfere with the successful use of tannin-alcohol.

Splenomegaly with Recurrent Jaundice Ending in Hepatic Cirrhosis and Aetles, with Remarks on the Splenomegaly of Inherited Syphilis in Children.

—Weber (British Journal of Children's Diseases) presents a case of splenomegaly in a girl 12 years of age. She was rather delicate. Showed a moderate amount of jaundice, during the last three months of

life. The feces were sometimes of a good color and sometimes pale. The urine gave a faint reaction for bile pigment. For at least six years the spleen was palpable three fingers' breadth below the costal margin. The liver was apparently not enlarged, though it could occasionally be felt below the costal margin. Except a suggestive family history there was nothing to suggest syphilis. There was nothing abnormal in the blood picture.

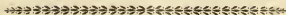
Six years previous to her final illness there were two attacks of jaundice, from which she promptly recovered. The size of the spleen remained unchanged in spite of treatment with mercury and the iodides. Five years after these attacks she again developed jaundice. Soon after this acites appeared and a rapidly progressing cachexia set in. She became progressively anemic, and finally died, three months after the onset of acites.

The necropsy examination showed a liver weighing 26 oz., contracted and hob-nail in appearance. On microscopic examination a medium degree of multilobular cirrhosis was found. The spleen was large (33 oz.), and microscopic examination showed the presence of an extraordinary amount of chronic fibrosis.

The Dr.'s review of the case and the literature may be summarized as follows:

1. The splenomegaly of inherited syphilis is often accompanied by occasional attacks of obstructive jaundice.
2. Moderate splenomegaly in children about the ages of 5 to 16 years may be almost the only evidence of inherited syphilis.
3. Hepatic cirrhosis, with or without acites, may be associated with splenomegaly.
4. It is doubtful whether the cirrhosis of the liver in these cases is of specific origin, but there may be diminished resistance of the liver, because of the syphilitic taint, towards the action of toxins.
5. Inherited syphilis in these cases may be associated with some degree of retardation in general physical development.
6. In these cases caution must be employed with regard to antisyphilitic treatment, on account of the general delicacy of the patients and their liability to renal and catarrhal complications.
7. In these cases there is little real anemia.
8. Other unknown (toxemia?) conditions may cause splenomegaly and recurrent jaundice in children.
9. Cases of "familial" splenomegaly occurring in two or more members of a family may occasionally be connected with an inherited syphilitic taint, but familial splenomegaly is better recognized in connection with congenital chronic acholuric ("hemo-

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lytic") jaundice, and with primary splenomegaly of the "Guncha type".

10. Splenomegaly in children may be the most important sign of the presence of hepatic cirrhosis, when the former is either secondary to, or due to the same cause as, the latter.

11. Some cases of splenomegaly in children with inherited syphilis ultimately present the characteristic clinical features of splenic anemia or Banti's disease.

The Test of a Tonic.

The field and function of a systemic tonic is generally understood and appreciated by both physician and patient. To stimulate, whip or goad the vital processes is not to "tone," but, on the contrary, to ultimately depress. A real tonic is not a mere "pick-me-up," but some agent that adds genuine

strength, force and vigor to the organism. The genuine tonic is a builder or reconstructor of both blood and tissue. Any agent which will increase the power of the blood to carry and distribute the life giving oxygen is a tonic in the best and truest sense of the word. Iron in some form is an ideal tonic, as it builds up the vital red cells of the blood and the hemoglobin which is their essential oxygen-carrying element. Of all forms of iron, none is quite as generally acceptable and readily tolerable and assimilable as Pepto-Mangan (Gude). It creates appetite, tones up the absorbents, builds the bloods, and thus is a real tonic and reconstructive of high order. It is especially desirable because of its freedom from irritant properties, and because it never causes a constipated habit.

Neurotropism of Salvarsan.

The authors describe 13 cases in which nervous disturbances followed the use of salvarsan. The first case exhibited symptoms of irritation of the meninges of the brain and spinal cord one month after the injection; a second injection caused all the symptoms to subside. The other cases showed, respectively, signs of basal meningitis with bilateral facial paralysis; basal meningitis with bilateral facial paralysis and involvement of the auditory nerves; bilateral otitis interna with optic neuritis on the right side and homonymous hemianopsia; facial paralysis; oculomotor paralysis; otitis interna of the left ear; optic neuritis with irritation of the cerebral and spinal meninges and left otitis interna; otitis interna of the left ear; alternating bilateral otitis interna; bilateral otitis interna; otitis interna with especial involvement of the vestibular nerve; otitis interna with Meniere's symptom-complex. All these patients except one were in the early stage of secondary syphilis, and the nervous symptoms appeared six or eight weeks after the injection of salvarsan.

These phenomena were not due, in the opinion of the authors, entirely to a neurotoxic action of salvarsan, but were the result of an inflammatory infiltration of nervous structures dependent upon the action of the spirochetes or their toxins and easily responsive to further treatment, recovery being the rule. They have seen four other syphilitics with involvement of the auditory nerve who had never been subjected to salvarsan treatment, but had taken only mercury. Nevertheless, the frequent occurrence of the nervous phenomena in association with salvarsan administration would indicate, according to the authors, a certain degree of affinity on the part of salvarsan for these nerves insufficient to cause a degenerative inflammation, but sufficient to induce localization of the syphilitic process in them. They advise, in consequence, early and vigorous mercurial treatment in these cases.—Geronne and Gutmann, *The Berliner klinische Wochenschrift*.

Tincture of Iodine in the Treatment of Erysipelas.

The author reports a series of about 40 cases treated locally with iodine tincture. He considers it superior to other agents, but specifies certain points in the technique which are essential to success. The zone of sound skin surrounding the involved area is first painted with a wad of sterile cotton dipped in the tincture; next the diseased area is painted, using a fresh wad; finally, the area is covered over with cotton, to prevent spreading of the infection through

the intermediary of the patient's fingers. The author found it best to apply the iodine lightly five or six times a day rather than more freely morning and evening. In this way induration of the superficial skin layers, which would interfere with the action of the iodine, is avoided.

The tincture used should be of 10 to 12 per cent. strength, and freshly prepared.

Twenty-one cases of facial erysipelas were thus treated with uniform success, 1 recovering after the first application, 16 in three days, 3 in four days, and 1 in five days. Of 6 cases of erysipelas of the neck, 2 were relieved in four days and 4 in six days. Eleven cases of erysipelas complicating accidental wounds yielded in less than five days. The wounds were left unsutured and treated likewise with iodine, with good results.—Ferrari, in *The Gazzetta degli Ospedali e delle Cliniche*.

Hypophyseal and Eunochoid Adipositas in Children.

Neurath (Wiener klin. Wochenschrift) contributes three observations on abnormally fat children. In the two first cases—a boy of ten and a girl of eleven years—there was an abundant accumulation of fat in the subcutaneous connective tissue, with a predilection for the regions designated as the typical localizations of eunochoid fatty deposits, by Tandler and Grosz. Both cases had further in common the greater length of the lower part of the body, and the ultimate development of epileptic seizures. The third patient, a six-year old boy, presented an evident hypoplasia of the genital glands. Similar positive indications of primary genital hypoplasia were absent in the first case, but all the symptoms suggested the existence of certain dystrophic substances arising on the basis of an impaired function, or hypoplasia of the interstitial tissue of the genital glands, which regulates the development of the secondary sex characteristics and the course of normal ossification. This interstitial tissue of the genital glands must be interpreted as a parenchyma having an internal secretion of its own.

Polomyelitis and Herpes Zoster.

Garrow notes the wonderful analogy that exists between these diseases, looked at from every point of view, and the fact that they were simultaneously epidemic in a certain district raises the question, may they not be dependent on the same infective process, attacking the anterior horns of the spinal cord in the one case and the posterior root ganglia in the other? In other words, are not infantile paralysis and shingles one and the same pathological entity?—British Medical Journal.

The Charlotte Sanatorium

Charlotte, N. C.

Surgical Department

THE SURGICAL ROOMS OF THE CHAR- LOTTE SANATORIUM

The Sanatorium is especially arranged for the handling of a large number of operative cases. Seven rooms have been set apart for the operative department. The designers spared no pains or expense in making these rooms perfect for which they are used, and they are examples of modern efficiency. This department is cut off from the rooms in which the patients are subsequently cared for. They face the South and have an abundance of light and ventilation.



Seventh Street Entrance.



Minor Operating Rooms.

ways ready for instant use.

The first room is used for a minor operating room and can also be arranged for examinations and treatments. Tables of the latest pattern are used for operations or examinations, or both as may be necessary. The room is shown prepared for a minor operation with all the necessary dressings and instruments. The cabinets in this room are of steel and glass and contain dressings and sterilized materials of all kinds for general use in the surgical department. In this way the sterilized materials are kept free from dust or other contamination and are al-



Instrument Room.

The next room is the instrument apartment. It contains large instrument cases of the latest models. These cases are filled with every modern surgical instrument, many of which are imported. The collection is most complete and any needed instrument is at once available for any emergency that might arise. To one side are the solution stands in which the standard stock solution are kept, so that the working solutions can be obtained at any moment.



Across the hall from the two rooms previously mentioned is the dressing room for the surgeons. In this room are six roomy lockers and a double lavatory of glass and porcelain. The lavatories were specially made for the Sanatorium and have complete foot control. Adjoining this room and a part of it, is a private bath and toilet. Every convenience is at hand for the operator and his friends to become thoroughly prepared before going into the operating rooms.



Surgeon's Dressing Room.

The next room is the nurses' dressing and preparation room. A large double lavatory with solid glass top and porcelain bowls are used for hand sterilization. These are operated entirely by the foot so that the hands need not touch anything after the preparation has once begun. A large slop sink is set in one corner for solutions and soiled discharges from the operating room. A white enamel table is used for emergency medicines and materials for quick dressings.



Nurses' Dressing Room.



Operating Room A.

This shows operating room A, and indicates the completeness and convenience of the arrangement. The table is of the latest model of white enamel frame, with glass and nickel plated top and nickel plated steel fixtures. On this the patient can be put in any position at a moment's notice. A large circular glass table is used for the instruments and dressings and can be wheeled to the operators' side where everything is at hand. The glass top stool, medicine and anesthetic tables are easily placed at any desired point. The floor is tile, the

wainscoting of marble with enamel ceiling. every thing can be thoroughly cleaned.

The woodwork is in white enamel and



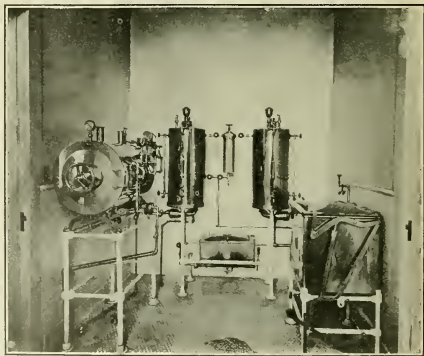
Operating Room B.

fitted up with the most improved-table, stands and other accessories that go along with a modern operating room.

This room is Operating Room B, which has the same dimensions walls and floors as operating room A. Both rooms have large windows facing to the East, South and West, and large sky-lights overhead. In addition to these lights there are in each of these rooms, ten electric globes which combined given an artificial light equal to 1000 candle power. So that an emergency operation at night can be done as well as a formal operation at noon. This room like the other, is



The sterilizing room is, of course, one of the important rooms connected with the operating department. It is situated between the two operating rooms A and B, and communicates with both of them. This room is furnished with two water sterilizers, a large pressure sterilizer for dressings, a full sized instrument sterilizer and a roomy utensil sterilizer in which the largest pans, basins or pitchers can be boiled. By these means everything going into either one of the operating rooms can be made perfectly sterile and absolutely safe.



Sterilizing Room.

This shows the hall leading from the main corridor to the different operating rooms. The first door to the left opens into the minor operating room, the second door is the instrument room, the ones at either end of rolling stretcher, open into operating room A on the left and operating room B on the right. The first door on the right is the surgeons' dressing room and the next opens into the dressing room for the nurses.



Hall.

The solution basins for the hands are shown on stand between the dressing rooms. The patients' carriage or rolling stretcher is shown beneath the clock.

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GENITO URINARY SURGERY—A. J. Crowell, M. D.

EYE, EAR, NOSE and THROAT—A. M. Whisnaut, M. D., and J. P. Matheson, M. D.

CHEMICAL and MICROSCOPICAL LABORATORY—L. B. Newell, M. D.

LABORATORY OF SURGICAL PATHOLOGY—A. G. Brenizer, M. D., Director.

The second annual report of the surgical department shows that 444 operations were performed during the year 1910.

Diseases of the Breast.—Madison (Med. Press) states that the majority of breast tumors in women under thirty years of age are simple. The majority of breast tumors following shortly after parturition or abortion are due to septic inflammation. The majority of breast tumors in women over forty are malignant. Tumors of the breast are stronger predisposing causes of cancer than tumors elsewhere, because of the early senile changes which occur in that organ. Pain supervening early in the history of a breast tumor suggests a simple rather than a malignant growth. Puckering of the skin is the most important sign of malignancy in a breast tumor. Multiplicity of growths is a feature in favor of benignancy. A bloody discharge from the nipple, associated with a tumor, suggests a papillomatous cyst. Primary cysts rarely, if ever, occur. Cysts are secondary to other changes in the breast. Considering the frequency with which malignant changes occur in the breast, and the importance of an early diagnosis when most difficult to make, every tumor should be removed and examined. All solid, apparently simple tumors which do not shell readily out of an obvious capsular demand excision of the breast and pectoral fascia.

Distomiasis or Sheep Rot.—Ward, in a recent issue of the British Medical Journal, mentions the symptoms of this disease in man. The period of invasion may pass unnoticed clinically, and in the early part the host may gain weight and enjoy a good appetite. There may, however, be slight jaundice and moderate enlargement of the liver. In sheep the minimum duration of this stage is six weeks; in man it is probably longer. Secondly, the stage of anæmia is recognized, and this is supposed to coincide with the maturity of the flukes. Anæmia of the mucous membranes is the most obvious sign, but the symptoms are rather those of toxæmia; in the case about to be considered they were certainly quite disproportionate to the anæmia. Appetite fails or may become depraved, the temperature is irregularly elevated, and the frequency of the pulse increased. Gastric pain and intestinal disorders become evident, diarrhoea and vomiting are not unusual, constipation may be present. The eyes are lustreless and the skin dry; experienced veterinary surgeons have been known to base a diagnosis on the condition of the skin alone. Slight exertion aggravates the dyspnoea which is present, and the third stage soon appears. This is the stage of emaciation and ascites, and is accompanied by increased anæmia and progressive hepatic derangement. Oedema of the eyelids, conjunctivitis, hydrothorax, bronchitis,

ascites, and jaundice are among the common symptoms. The fourth stage seems to correspond in time with the emigration or excretion of the parasites, and in those who have survived the third is one of slow recovery from toxic symptoms. Fibrosis and other changes in the liver remain, and may cause permanent ill health. Abscess of the lung and general peritonitis are among the possible causes of disease. As to the management of the disease, treatment with anthelmintics is of no value, since they are not excreted in the bile and so cannot reach the parasites; moreover, any drug that was excreted in the bile in sufficient quantities to kill the fluke would probably kill the host as well. As a matter of fact, we do not know of any drug which is secreted in the bile or circulates in the blood in sufficient concentration to act as a vermicide. Quinine is certainly a protoplasmic poison, and exists in the blood as such, and the same is true of arsenic; but these do not seem to have any effect on blood sucking parasites. We endeavor to stimulate the secretion of bile, with the idea that toxic substances should be washed out and their absorption perhaps prevented. For this purpose enonymin may be given three times a day in pills containing one grain. A marked rise in hæmoglobin will probably take place under this treatment, but this may be due to rest and improved hygiene. Symptomatic treatment follows the usual lines, and even surgical treatment may have to be invoked. Prophylactic treatment is hardly called for in man, but consists of the administration of common salt with any food likely to be affected.

Diagnosis of Abortive Whooping cough by Means of the Reaction of Bordet-Gengou.—Delcourt (Arch. de med. des enf.) states that the discovery by Bordet and Gengou of a small coccobacillus in the expectoration of children having whooping-cough has revolutionized the diagnosis of this disease. We do not now have to wait for the appearance of the whoop before isolating the child from other children. This microbe is found in pure culture in the exudation of the bronchial tubes, which is rich in leukocytes, and of white color. They are much more frequent at the beginning of the disease than after the phagocytes have acted on them. When the infection has become mixed they are much harder to find. The microorganism is ovoid, sometimes elongated, sometimes short and resembling a micrococcus. It can be stained with Kubne's blue, and toluidine blue, the outside and the extremities being of a deeper color than the rest of the cell. This microbe has been cultivated by its discov-

ers in a medium prepared by themselves. The colonies found on the third day are white, circumscribed, and projecting. Its identification becomes more difficult as the disease advances. When complicated with bronchitis, bronchopneumonia or influenza it is impossible to find the specific microorganisms, but its presence may be proven by the fixation of the alexin. Gengou and Bordet have demonstrated in the serum of adults who had pertussis the presence of an antipertussis sensibitizer which demonstrates the true nature of the disease. In the adult and in many children the whoop and the cry are absent. Yet these persons have an abortive form of the disease, as may be shown by this test. All children who, during an epidemic, show obstinate cough and vomiting should be submitted to this test. The abortive cases are more frequent than the classical ones, and it is due to their contagion that the mysterious spread of the disease has occurred. In an epidemic localized to one village tests were made which proved these facts. A systematic search with this reaction proved the diagnosis. Children who are carriers of the microorganism remained in the schools and spread the disease; a teacher who had an obstinate cough but no whoop carried it from school to school where she taught singing. The author concludes that pertussis of the abortive type is frequent among both children and adults; prevention will seek out these cases; the symptoms may be very slight; the diagnosis can be made only by the Bordet-Gengou test; the fixation reaction is of value in differential diagnosis.

Intoxications of Pregnancy.

An interesting case is recorded by Drs. Mayer and Linser in the *Munchener Medizinische Wochenschrift*, in which a severe condition of herpes gestations was apparently completely cured by injections of serum from a healthy pregnant woman. The patient was a young woman, who in the course of her first pregnancy had an attack of herpes at the seventh month, accompanied by fever and severe general symptoms, and at the end of a fortnight was delivered of a weakly but healthy infant. Two weeks after confinement the skin affection disappeared. During the second pregnancy herpes appeared somewhat earlier, at the end of the fifth month. Beginning at the extremities it spread rapidly over the body, with formation of pustules and ulcers. The pain prevented sleep in spite of narcotics. The urine contained one to two parts per 1,000 albumen and casts. External and internal medication failed to relieve and abortion was contemplated, but there was the fear of puerperal fever from



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the septic condition of the eruption. Serum injections were, therefore, first tried. Ten cubic centimetres of serum from a normal woman were first injected intravenously in order to determine the effect of human serum upon the organism. As the result was negative, three days later 10 c.c. of serum from a healthy woman eight months pregnant were injected, and three days later another 20 c.c. were similarly injected. After the second injection the temperature fell steadily to normal in the course of three days, the vesicles dried up and no fresh ones appeared, so that at the end of a fortnight there was no trace of the skin affection. At the same time the albuminuria and casts disappeared from the urine. After five weeks' interval, however, a fresh eruption occurred. This readily yielded again to a further injection of 20 c.c. of serum, and the patient was delivered of a healthy child at full term. The authors suggest from the experience of this case that other conditions dependent upon pregnancy, such as persistent vomiting, eclampsia, albuminuria, etc., might similarly yield to this form of serum therapy.—The London Hospital Journal.

Bacteriological and Clinical Studies of Puerperal Infections.

Basso has made a study of the bacteriology of the lochia from vagina and uterus in 100 normal pregnant women at different months of pregnancy, of 150 normal puerperal women, and of 82 cases of puerperal infection of varying degrees. From his studies he gives the following conclusions: In 25 per cent. of healthy pregnant women we find streptococci present in the lochia; even the hemolytic form may be present in 4 per cent. without any harm occurring from their presence. In women in labor, even when febrile, the blood presents no germs. In normal puerperal women in the uterine lochia the streptococcus is present in 13 per cent.; in saprophytic conditions, in the vaginal lochia they are present in 38 per cent. In 64 per cent. of puerperal infections of varying degrees of severity streptococci were found in the lochia, and in 17 cases they were hemolytic. The presence of these germs is not an indication of

virulence of the disease, nor a reason for giving a bad prognosis. Their presence is to be considered of serious import only when the clinical symptoms are at the same time severe and fever and pulse are unfavorable.—*Folia Gynæcologica*.

Acquired Pelvic Contractions from Severe Labor.

Eduardo Fabbriatore records the observations made by him in his obstetric service in a province of Italy in which there were few roads and no railroads, but in which there were forests and large timber, which was cut and brought to the railroads on the shoulders or heads of the inhabitants. Much of this work was done by women and children, and these often suffered from lack of proper food to sustain such severe toil. In his obstetric service among these women he found many cases of contracted pelvis necessitating operative measures for the delivery of the child. Many cases of forceps, and craniotomy were seen. The author did not do pubiotomy or symphyseotomy on account of the poor and squalid surroundings in which these deliveries took place. He believes that these contracted pelvises were due to the severe labor imposed and begun often by young girls at an early age. Up to the age of twenty years the condition of the ossification of the pelvic bones permits of deformities produced by severe labor. The pelvis is supported on two pillars, the femurs, in the erect position. The pressure exercised from above by the trunk and the weights carried on the sacrum pushes the bones into the pelvis and draws inward the upper part of the ilium. The weight of the trunk, the counterpressure of the femurs, and the resistance of the pubes are the three forces acting on the pelvis. The sacrum is pushed deeper into the pelvis, and the curve of the sacrum is exaggerated, thus limiting the size of the pelvis. A torsion of the ilia with flattening of the whole pelvic cavity occurs. The continued action in walking of the exaggerated muscular masses is fatal to the development of the pelvis. Thus result narrow and deformed pelvis fatal to normal labor.—*Giornale Internazionale delle Scienze Mediche*.

Each return of the season in which these affections prevail witnesses an increase reliance on the part of physicians on

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Cocainism Mistaken for Alcoholism.

Higier says these two conditions are often confounded. A subject, perhaps a dentist, of neuropathic tendencies begins to use cocaine in small doses, increased day by day. He begins to suffer with tremor and insomnia. His troubles usually begin when he voluntarily cuts down the dose. He suffers from collapse, bad dreams, mental confusion, and hallucinations bearing on the conviction of immediate death. He develops a high state of mania. The attending physicians diagnosticate alcoholism and treat the patient accordingly. There is indeed a strong resemblance between the two mental states. Morphine is of value in either case. The cocaine psychosis is an acute hallucinatory insanity, with a greater tendency to suicide than is shown by the alcoholic. The author insists that cocaineomania is easily curable and but seldom relapses. Withdrawal does not occasion the severe abstinence phenomena present in alcohol and morphine addicts.—*Munchener medizinische Wochenschrift*.

Some Latin Recipes.

Cato the Elder, or the Censor, celebrated for his military, judicial, and oratorical talents, for the purity of his morals, and for his hatred of luxury, wrote for his son a manual of rural economy. In it he lays bare all the precepts of agricultural science, from the art of choosing the land and its farmer to that of the best method of cultivating asparagus. A goodly number of recipes are also to be found in it which, in spite of their age, are still of use, especially the one which deals with the making of Carthaginian porridge. "Crush in water a pound of groats, add to this three pounds of cheese and a pound of honey; cook the lot in a new sauce-pan, and serve." The author, who cannot be suspected of undue tenderness towards Carthage, assures us that it is excellent. The cabbage, according to Cato, is the first of vegetables, and the most digestible. Take it as an opening medicine, preserved in vinegar, and you will be able to eat and drink as much as you like. Take five leaves of it after dessert, and you will be able to resume the feast. Its uses are legion, its cures marvel-

lous. It will become, as you wish, an emetic, a purgative, a soporific, or a remedy against gout. Whoever has eaten of it will furnish liquid enough for a bath such as will invigorate children and remove from matrons all unpleasant exhalations. Cato recommends absinthe, but not as a beverage. One should carry a bouquet of it in front if one wishes to avoid the excoriations which at times delay the progress of the pedestrian. Have you a dislocated member? Take a green reed, cut it in the middle, and let two men hold it on your thighs while you sing "Dories, dardaries, astataries, dissunapiter." In case of a fracture say "Huat, hanat, haut ista, pista sista domiabo damnaustra," or, better still, "Huat hanat haut ista sis tar sis ardaunabon damnaustra." Those who deny the practical utility of Latin can obviously never have read Cato.—*La Belgique Medicale*.

On the Clinical Use of Nuclein.

Nuclein is a complex proteid body characterized by its large percentage of phosphorus. The phosphorus exists in the form of nucleinic acid. As far as is known, this acid is the same in all cells although the basic part differs in various nucleins.

The therapeutic value of nuclein depends on two facts: First, upon its content in phosphorus, which is so necessary an element for the tissue metabolism; second, upon the fact that it is a normal constituent of all tissue cells and that in disease this normal constituent is apt to be deficient. The therapeutic exhibition of nuclein then supplies the material with which to make good the deficit, and it is probably upon this basis that we must explain at least some of the excellent results that have been recorded from the use of this drug.

While nuclein has been obtained from a variety of sources; from yeast (by Miescher, Vaughan and others); from the thyroid and thymus glands; the spleen and other glands; it is for many reasons preferable to resort to the vegetable kingdom: to be exact, to the wheat germ, as a source of nuclein for therapeutic purposes, since it has been found that nuclein derived from animal sources is apt to develop toxic properties

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 nucleins.

From the preceding, the indications for nuclein are primarily in all conditions of deficient vitality, such as anemias and the conditions of malnutrition due to faulty digestion. Owing to the very emphatic stimulating action of nuclein upon the number of leucocytes, more especially on the phagocytes, the drug has found its best known and best appreciated field of administration in conditions due to bacterial infection, and this was made use of successfully some years ago by Miculicz, for the prevention of operative infectious peritonitis. A number of very interesting communications have been published on this subject from his clinic in Breslau. All experiments, whether in the laboratory or clinical, show that the direct action of nuclein is exerted in the direction of producing hyperleucocytosis, the phagocytes being the cells particularly affected. It follows that nuclein is an efficient remedy to counteract not only infections proper but also infectious diseases, at least in their early stages, and this point, suggested already by Vaughan in 1894, has been, in recent years, elaborated and proved clinically, more especially by Professor Ward, of St. Louis, who communicated in January, 1910, a report to the Academy of Medicine in Chicago upon his results with intravenous injections of the drug made from the wheat germ. Since then the tritico-nucleinate of sodium has been used largely, orally, hypodermically and intravenously, and in many cases with the happiest results.

Nuclein is not a cure-all, nor can its germicidal powers be called more than slight, but it stimulates the resistance of the organism to bacterial infection and bacterial disease, it enables the organism weakened from any cause whatever to recuperate more rapidly than it would without the aid of this drug.

It has been found of particular value as a surgical dressing, undoubtedly owing to its stimulating effect upon the leucocytosis, and the uses of nuclein have become many and varied. It goes without saying that a dependable, uniform and standardized preparation should be used.

For full information on the tritico-nucleinate of sodium write to the Abbott Alka-

Moliere vs. Medicine.

Many explanations have been given of Moliere's hatred for medicine. Suffering as he did from an affection of the heart, it may be that he hated the faculty because of its powerlessness to give him relief. In any case his aversion increased after assisting at the death of Gassendi, who succumbed to the effects of thirteen successive bleedings. It is also said that domestic misfortune was the origin of his dislike of doctors. Whatever be the cause, his antipathy for the medical profession was prodigious and unjustified, for even granting that medicine at his time was often hand in glove with sorcery, and allowing that charlatans often obtained good results at the expense of legitimate practitioners, it is nevertheless true that among the ranks of the latter were to be found many who accomplished great things in the matter of medical progress. It was at this period that chemistry, having rid herself of occultism, was for the first time taught in public, that Bartholin discovered new glands and renewed our knowledge of the blood, that Malpighi prosecuted his researches into all manner of things, that Leuwenhoeck recognized the blood corpuscles, and that Charas gave himself up to dangerous experiments while searching for a remedy against the bite of vipers. All this scientific endeavor, serious and useful as it was, Moliere lost sight of, and his error has brought about large damage to the popularity of medicine, for his types of charlatans have become immortal, and it has needed the passage of two hundred years before it became possible to talk to doctors on the stage in language other than that employed by M. Purgon.—*La Belgique Medicale*.

Treatment of Collapse after Narcosis.

If the usual methods for reviving a patient after a chloroform or ether collapse have failed, a laparotomy should be performed no later than five minutes after and the heart rhythmically massaged about 60 times a minute through the diaphragm between the thumb and the index and middle fingers. At the same time, oxygen is insufflated into the lungs, preferably by the Meltzer method, and artificial respiration is kept up. The massage and artificial respiration

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formed to reach the heart, disinfection of the parietes with iodine and the use of rubber gloves will materially shorten the procedure. Where the diaphragm is spastically contracted, it will be necessary to make an incision into it, care being taken not to injure the pleura. The results have been better after massage by the subdiaphragmatic route than by the transdiaphragmatic or thoracic route. In the case of A. T. Jurasz the heart began to beat again after massage lasting two minutes.—Muench. med. Woch.

Active Substances of Uterus and Ovaries.

Recently functional disturbances of the ovaries have been held responsible for the uncontrollable hemorrhages from the uterus, which often necessitate removal of this organ. In such cases, the pathological examination of the uterus and ovaries is often negative. Since menstrual blood clots slowly or imperfectly, G. Schickale believes that in these cases substances inhibiting coagulation are formed in excess. It was, indeed, found that the expressed juice of the uterus, ovaries and tubes interferes to a marked degree with the normal clotting of blood, while the juice of other organs hastens the process. The juice of the ductless glands behaves like that of the ovaries, but to a less marked degree. Experiments with the fluid of the follicles of the ovary were negative, but the juice obtained from the isolated corpora lutea was particularly active. If the juice is concentrated by evaporation and then injected into the veins of animals, a pronounced lowering of blood-pressure is the result. Locally in the conjunctiva, the extracts will dilate the vessel and lead to lachrymation, hence the fall in blood-pressure is due to direct action upon the peripheral vessels. Sometimes the animals experimented on will show convulsions, slowing of pulse and respiration, and general toxic action with contraction of the intestines.—Muench. med. Woch.

A Military Suicide Club.

The German Press has recently announced the existence of a club whose members are soldiers adept in the art of suicide. The honor of possessing such an institute be-

longs to the garrison of Nuremburg, though its future would seem to be somewhat precarious owing to each of its members having sworn to put an end to his life. It must not, however, be imagined that Germany has anything in the nature of a monopoly, as regards these exalted associations, for it has been shown again and again that true epidemics of suicide spring up at times in various countries and among both sexes. It has been thought that atmospheric conditions may have something to do with the production of such a tendency, but it is far more probable that it is the result of a spirit of imitateness. The women of Lyons in the last century were possessed of an impulse to kill themselves by jumping into the city wells. In 1813 a woman hanged herself at Saint-Pierre-Mouzan in le Valais, and in consequence a large number of other women followed her example, and had not the authorities intervened, the epidemic bade fair to attack every female in the district. It is curious to note that attempts at interference came solely from the authorities, husbands deeming it the wiser plan to offer no contradiction to their spouses on this occasion! Napoleon ordered a sentry-box to be burnt in which several soldiers had committed suicide. Imitative self-destruction would seem to have a peculiar fascination for the military, and the story is told that on one of the soldiers of the Invalides hanging himself from a pillar, his example was imitated by a dozen of his companions. The temptation only ceased on removal of the column. Panurge's sheep have existed for all time and in all classes of society. It is impossible to distinguish the force which drives the soldier to give himself up to death in this fashion. He kills himself without a motive for no reason, simply for the fun of the thing. The cause of this impulse to self-destruction is incomprehensible: it is not lack of money, nor yet a passionate but unrequited love. In such an event as this last one could understand even if one did not entirely sympathize with the motive of despair.—Journal de Medecine de Bordeaux.

Pelvic Metastases from Cancers of the Upper Abdominal Organs.

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To quote the language of one of our contemporaries, we hold no brief for the Coca-Cola Company. They are good advertisers. It is true, but The Press printed the testimony sent out by the Associated Press for the government and the defense. That medium, as usual, was thoroughly impartial. The process was completely shown up in the evidence and the witnesses expressed themselves from every possible angle.

Coca-cola is an Atlanta institution. In a way it is a Georgia enterprise. It has piled up monuments of wealth in the Capital City and Mr. Asa M. Candler, president of the company, is one of the foremost business men in Atlanta.

When all is said and done we look upon the evidence of Dr. J. W. Mallet of the University of Virginia as conclusive. He is one of the ablest chemists in the land and occupies a position as a man of science and character, second to no one in the scientific world. Dr. Mallet's evidence sustained the process of the company and cleared the atmosphere of doubts and aspersions. The Atlanta Constitution says of this case:

Judge Sanford, in the federal court at Chattanooga, has thrown the case against coca-cola out of that tribunal on the ground that the government's evidence did not justify the charges in the premises. On the salient counts, the judge issued "peremptory instructions." That means the jury was directed to return a verdict for the defendant without leaving its place in the jury box. Thus ends another governmental inquiry—naeco exactly where it began. An astounding sum, amounting into many thousands of dollars, has been lavished only to have the government's contentions dismissed summarily from court.

Dr. Mallet holds title of Fellow of the Royal Society, besides which he has been professor of chemistry since 1855, and holds the following titles: Doctor of Philosophy from the University of Göttingen; Doctor of Medicine from the State University of Louisiana; Doctor of Law, Princeton University, Johns Hopkins' University and University of Pennsylvania; he has been Professor of Chemistry in the Universities of Alabama and Texas and Tulane University, and Jefferson Medical College, and has been for nearly forty years Professor of Chemistry at the University of Virginia.

He gave this testimony in court; it is authentic; you will find it intensely interesting.

—See opposite page.

Dr. Mallet says that in so far as the caffeine content of Coca-Cola is concerned that it contains less caffeine than does the average cup of coffee or the average glass of tea.

Black Tea: 1 cupful thereof containing 5 fluid ounces contains 1.54 grains of caffeine.

Green Tea: 1 glassful of 8 fluid ounces, contains 2.02 grains of caffeine.

Coffee With Hot Milk: 1 cupful of 5 fluid ounces, three-fifths coffee, two-fifths milk, contains 2.61 grains of caffeine.

Black Coffee: 1 cup after-dinner coffee of two fluid ounces contains 1.74 grains of caffeine.

Coca-Cola Syrup: 1 fluid ounce contains 1.21 grains of caffeine.

Dr. Mallet further testified as to his experience with caffeine containing beverages, and we quote word for word from the evidence:

"Q. What experience have you had with the use of caffeine-containing beverages?

"A. I have had my own experience and general observation of others who use it, but my attention was particularly directed to it during the Civil War as given to or of necessity withheld from troops.

"Q. Have you had any particular experience in the use of coffee yourself?

"A. Yes, the ordinary, individual use.

"Q. What quantity and how long?

"A. You mean continuously?

"Q. Yes.

"A. I have generally taken from one to two cups a day.

"Q. For how long?

"A. Oh, for a great many years—forty or fifty years.

"Q. Did you notice the use of it during the time you speak of, during the Civil War period?

"A. Yes.

"Q. What was your observation of the use of coffee during that time?

"A. Well, sir, the general result of my observation is that the use of caffeine, or beverages containing caffeine, in moderation is not only not harmful but absolutely beneficial—some times very markedly so; and then, on the other hand, the excessive use of caffeine may undoubtedly give rise to disorders and a certain amount of disturbance to health.

"Q. Doctor, in your opinion is caffeine habit-forming?

"A. No, sir, not in the correct use of the expression "habit-forming."

"Q. I wish you would explain what you mean by the correct use of the expression "habit-forming?"

"A. In the first place, I think the habit formed must be a detrimental one and an injurious one, and in the second place, one which becomes so firmly fixed upon a person acquiring it that it is thrown off with great difficulty and with considerable suffering, and in the third place, that the continued exercise of the habit increases the demand for the habit-forming drug; and caffeine is not a habit-forming drug in that sense."

The remaining part of his testimony went into detail in regard to the expert analysis of Coca-Cola syrup and the technical way in which these analyses were carried out.

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of cancer of the organs of the upper abdomen, such as stomach and pancreas, after the removal of the cancer, and after the good condition of the patient has existed for some months or years, we find appearing bilateral ovarian cancers, growing rapidly and very malignant in type. These annexial tumors may exist alone or be accompanied by an extended generalization of the primary cancer. The point of interest is the mode of invasion of the ovary, whether the infection is by way of the blood or the lymphatics, or by a direct ovarian graft from cells that have fallen into the peritoneal cavity at the time of the operation. The hypothesis of an affection by the blood would hardly explain the localization which selects the ovary for its attack. The lymphatic theory is defended by Schmorl, Glockner, and Pfannenstiel. The most probable supposition is that of a direct grafting by cells that fall into the peritoneal cavity. Kraus and Polano have shown experimentally that solid particles, such as India ink, injected into the peritoneal cavity, penetrate the ovary through the intact epithelial covering. The primary tumor may be entirely latent in some cases, only the ovarian growth being in evidence. In still other cases of gastric ulcer, ovaries that appear perfectly normal may be already involved in the cancerous growth. It is found that cancers of the posterior cul-de-sac are even more frequent than those of the ovaries. The rectum is frequently involved in this way. From these facts one may make the practical deduction that in cases of cancer, vaginal and rectal examinations, and examination of the stomach and pancreas should be made before operation is decided upon. In every operation on the adnexa for cancer we must also examine the organs of the upper abdomen.—*La Presse Medicale*.

The Skin Reaction with Tuberculin in Syphilitic and Metasyphilitic Affections.

G. Mingazzini gives the results of the test with tuberculin in syphilis. There has been an attempt to obtain a reaction with syphilin similar to the test with tuberculin in tuberculosis. But the results of this reaction have not been satisfactory. Therefore a test was made in syphilitic cases with tuberculin itself. It has been found that in marked cases of syphilis a positive reaction is obtained with tuberculin in the skin test. Out of 49 syphilitics in whom clinically there was no evidence of tuberculosis a positive skin reaction was obtained in 44. Of these patients 5 had initial manifestations of syphilis, 22 secondary lesions, 6 tertiary symptoms, and 12 metasyphilitic

lesions. In two cases the reaction was weak, in one inactive. The reaction was less marked than in tuberculosis. In 37 cases in which the history excluded tuberculosis the skin reaction was made. In two of these autopsy showed no tuberculous foci in the body. The skin reaction was positive in 12 cases. The stage of the disease does not affect the reaction. But the general condition seems to influence it, the reaction being less positive in cachectic cases. Mercurial or iodide treatment has no effect on the reaction. The skin reaction and the sero-diagnosis have parallel results. The skin reaction will not suffice to make a differential diagnosis between tuberculosis and syphilis. In cases in which we suspect a syphilitic or metasyphilitic disease and in which we can exclude tuberculosis clinically, the positive entire action is in favor of a luetic infection.—*Il Policlinico*.

Ultimate Results in Shoulder Dislocations.

Some attention has lately been devoted in the French and German medical press to the prognosis of cases of dislocation of the shoulder-joint after reduction. Authorities seem agreed that it is always best to give a guarded opinion even in cases where an examination with the x-rays has shown that the bony skeleton has suffered no perceptible damage. Out of every hundred cases not more than fifteen regain complete functional activity. The remainder present varying degrees of reduced muscular activity, limitation of movement, articular crackling and pain. Lenormant, in the *Presse Medicale*, states that the majority of old cases of dislocation of the shoulder undergo, by the very fact of the accident, a partial and definite diminution of their functional value. This diminution averages about 20 per cent. but may attain 50 per cent. in about one-tenth of cases. Most cases show a few months later a notable atrophy of the periarticular muscles. There is relative impotence with limitation of movement, especially in the motion of abduction. The arm cannot be raised to the horizontal position, and the power of abduction is reduced one half. Palpation reveals crackling in the joint. This atrophy and stiffness is caused frequently by bony and nervous lesions. Radiography may show that the dislocation is complicated by the tearing away of portions of the tuberosities of the humerus; after consolidation the detached fragments may form callus on the borders of the glenoid cavity and so limit abduction. The nervous lesions are due to compression and stretching which may lead to circumflex paralysis. In many cases, how-

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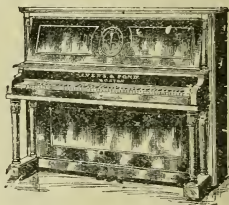


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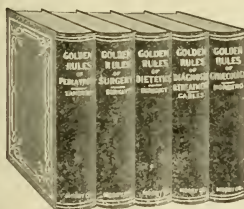
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ever, neither bony nor nervous lesions exist to explain the condition of impaired function. The pathology of such injuries remains obscure. All cases should therefore be x-rayed after immediate reduction, the limb should be immobilized for forty-eight hours only, after which it should be moved freely, and a not too hopeful prognosis given.

The Ultimate Results of Breast Feeding.

Comby, in the Archives de Medecine des Enfant, analyzes a thesis of Dr. Roger Simon on the late effects of methods of infant feeding. The latter writer concludes (1) that bottle feeding does not give such good results as breast feeding, (2) that bottle feeding in the home is better than the same carried out a distance from the family circle, (3) that the longer breast feeding is carried out the better is the ultimate result. It seems that the mode of feeding influences the height of the subject long after it has

been discontinued, but Dr. Simon considers that breast feeding no longer influences height when continued longer than ten to thirteen months. Dr. Comby states, however, that there are many cases on record where breast feeding has been continued for eighteen to twenty months, or even for years, without affecting the health of the child. He nevertheless insists that after ten months or so, breast feeding should be supplemented by other food, such as soups, broths, etc. Dr. Simon concludes from his researches that women brought up on the breast, menstruate earlier than the bottle-fed, and that among the former there are less who eventually suffer from gastrointestinal troubles than among the latter. Dr. Comby thus thinks that the writer of the thesis is justified in affirming that the superiority of natural over artificial feeding is proved not only in the infant, but in the adult also. The work had been carried out at the Baudelocque clinic.—The London Hospital Gazette.

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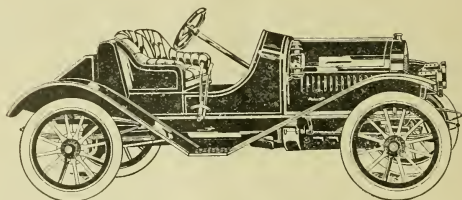
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FLORIDA MEDICAL ASSOCIATION.

Annual meeting at Tallahassee, Fla.,
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Charlotte, N. C., August, 1911.

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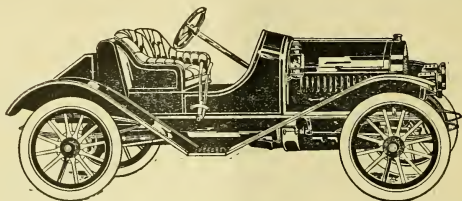
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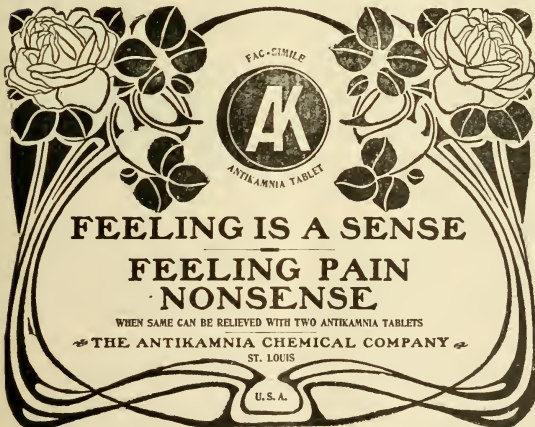
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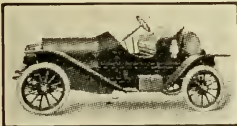
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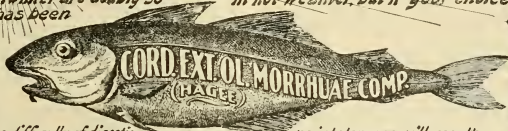
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The Charlotte Medical Journal

Vol. LXIV

CHARLOTTE, N. C., AUGUST, 1911.

No. 2

Some Observations on the Treatment of Delayed Union of Bones.

By L. Sexton, B.S., M.D., Minor Surgery, Tulane University, New Orleans, La.

One per cent. of fracture of the long bones, Patella and Abecranon and processes are united by faulty, delayed or ligamentous union. As the better teaching method of the treatment of fractures begins to bear fruit and the compound fractures of long bones are properly approximated by Lane plates or sutures, this percentage of faulty unions will be reduced and better general results shown in treating fractures.

Causes.—Many diseases, such as general debility, osteomalacia, scurvy, rickets, syphilis and tuberculosis are the constitutional causes of delayed union. The local causes may be defective innervation, osteomyelitis, lack of blood supply, muscles, tendons or soft parts between the fractured bones, defective apposition from muscular action and splints which do not hold the two ends of bone in apposition, interposition of fluids, and aponeurotic tissue, detached fragments of bone, want of rest (by not fixing the joint above and below the fracture), damage to the nutrient artery (as in fracture of the surgical neck of the femur), malignant tumors of the bone, extensive injury to the periosteum, inflammation and alcoholism. While these are the more frequent causes of non union there may be other conditions from general cachexia and blood deficiencies that also tend to prevent the union of bone.

Signs and symptoms are preternatural mobility without crepitus where the bone should be firm, as a false joint in the femur or humerus, a deep sulci where the surface should be smooth, instanced in fracture of the patella with the fragments drawn apart. Flail arm or leg with loss of function are some of the symptoms of delayed union of bones.

Varieties.—First. In some cases there is no reparative process started, as in fracture of a bone affected by sarcoma.

Second. A ligmentous union by a mass of connective and fibrous tissue. In this variety the osteoblasts do not enter into fibrous tissue in order to harden the same, leaving a flail limb which for service is hardly any better than where absolute non-union has been the result.

Third. A false joint in which the ends of the fractured bone are covered by cartilaginous tissue, which has no tendency to

unite. The constant friction between the ends of such a fracture produces a sort of ball and socket joint, so it has been designated pseudoarthrosis.

The most common site for un-united fractures are the lower third of the femur, the middle shaft of the humerus, the coracoid and olecranon process, and the patella, the latter on account of the strong muscles and ligaments attached to it.

Prognosis.—The prognosis depends upon the age, cause and treatment of the condition. The cause of delayed union in children usually is some cachexia, or disease of the bone. Prognosis is not so favorable, as the bones may become atrophied or pointed, covered with cartilageneous tissue in which there is no prospect of union. These are the varieties of cases that after repeated operative procedures have failed to unite, finally necessitating the amputation of the limb.

Treatment.—Constitutional treatment consists in a change of climate and environments when not suitable to the health of the patient, the giving of tonics such as contain limesalts, strychnia, arsenic and quinine. The local method of treatment is the rubbing of the two ends of bone rather harshly together followed by the fixing of the limb or extremity in a well padded plaster of Paris dressing which is kept on for six weeks or two months, and may be re-applied at the end of this time, provided there is no evidence of healing.

The ambulatory way of treating un-united fractures of the leg is by massage, keeping up and walking about in the fresh air, leaving the limb to hang down, producing an increased blood supply to the part, or applying a rubber bandage around the limb above the fracture for an hour or two daily as in the Bier method of treatment. Failing in these palliative measures there is nothing left to be done but the open method or operative treatment. When the bones are not covered with thick muscles or easy of access, and the deformity is not too great, the ends may be freshened by a Giglie saw or bone pliers, fitted and secured together by silver wire or kangaroo tendon, both of which is to be aseptically applied. Another newer method of holding the bones together is by the application of Lane Plates, consisting of a narrow piece of metal with four screw holes, two on either side of the fracture which are firmly applied so as to approximate and hold the two fractured ends in position.

To properly apply and fit these plates where the muscles are large and the bones are deeply covered necessitates an extensive operation which should not be undertaken by a novice in surgery. Another method of treatment is by boring holes into each fragment into which ivory pegs are driven. The pegs may either be removed or remain permanently. They are the nucleus for a large amount of new bone material by which the fracture is finally firmly united. The x-ray ought to aid us in distinguishing as to which particular case requires pegs or irritation and the other cases which necessitate actual wiring or suturing. Strict antisepsis, a large enough incision to deliver the ends of the bone is required in the latter class. Cut or saw the ends squarely across so that coaptation can be well made with Lane's plates or silver wire, placing the two ends of the resected bone in immediate juxtaposition when the operation is finished and the splints applied.

As a matter of course incisions should be made on the opposite side to the blood vessels and where the bone is nearest the surface. The ends of the bone may be amputated by a Giglie saw, which, however, is liable to break, or by sharp chisel and mallet or bone pliers.

As stated before, the cut across the bones should be exactly transverse, as the future union of the bones depend largely upon this one point. The case is then treated as in other compound fractures, with immobilization the chief object to be obtained. We must always remember in using silver wire that absorption of the bone around the wire is likely to take place. The principal object in using the wire is that with it you can overcome lateral displacement. The other advantage about the wire is that no sepsis can come from that kind of suture. Wire and staples act as foreign bodies, may cause late suppuration, and require the second operation to remove them. Many surgeons fearing the results incident to this criticism rely largely upon kangaroo tendon and chromicized catgut to hold the ends of the fragments in position. Another plan has been to bore holes into the non-united callus and into the bone.

Some surgeons who have had experience prefer to approximate and hold the two fragments together by twenty-day chromicized catgut or kangaroo tendon on account of the absorbability of this suture material. If they hold a bone together for ten days or two weeks enough callus has developed to unite the fractures and in very many cases in which the pegs, staples, Lane plates or wire sutures have been applied to approximate the parts, they later fail to become either encysted or absorbed, acting as

foreign bodies, having to be removed at some future time, thus necessitating a second operation.

After any of these methods of treatment immobilize the part five or six weeks; if good union does not take place re-apply the cast.

After the bones have been thoroughly approximated and the splints and dressing applied, if convenient, an x-ray plate should be taken in order to show that the bones have not been broken apart in the manipulation incident to applying the outer dressings. It is strange to say, but nevertheless true, that in occasional cases of fracture which have been at one time firmly united, the callus either absorbs or separates, producing a condition known as disunited fracture. This is only likely to occur in cases in which there is some wasting disease, such as scurvy, tuberculosis or lues.

With the wire suture we have recently had a successful termination of two cases of un-united fracture, one being in the humerus and the other in the femur. In each case we cut down upon the false joint on the opposite side to the nerves and blood vessels, freshened the ends of the bone by a Giglie saw and bone nippers, drilled two holes through the shafts on either side of the fracture and approximated the ends by twisting the wire together.

In the femur case we had a slight infection from the flesh wound as it was treated in a ward with numerous other pus cases, but the patient made a good recovery though he had worn out half a dozen plaster of Paris casts and had been confined in the hospital for more than seven months. In the fracture of the humerus we managed to miss infection, had no rise of temperature though there was considerable traumatism, the bones united perfectly as shown by x-ray plates and in each instance useful limbs were made from previously useless appendages on account of the non-union of the fracture.

The Matter of Enemata in Surgical Cases.

By R. L. Payne, M. D., Norfolk, Virginia.

The modern surgeon is too apt to think only of the perfection of his operative technique, believing that perfect execution and perfect dressing leave little else to be done. This is no doubt true of the vast number of cases, but there still remains a respectable minority in which the purely medical management after operation will determine the question of success or failure.

I make no apology, then, in calling the attention of this body to the matter of rectal alimentation, because I believe that this

valuable aid to the surgeon, as well as the physician, is imperfectly understood both in its limitations and its possibilities for good.

Too much is taken for granted and too little is absolutely known. It is commonly believed by the profession, largely as the result of clinical teaching in our medical colleges, that if the bowel will tolerate nutritive enemata we have a very good substitute for feeding by the mouth, and that the patient may maintain a "nutritive equilibrium" or possibly even gain in weight.

When we come to investigate this idea we find it is largely based on tradition and careful students of this subject tell us that, except in rare instances (the occasional cases in which the ileo-caecal valve will permit the passage of fluids beyond), rectal feeding is at best a process of slow starvation. Drs. Edsall and Miller in a very carefully conducted series of experiments determined in their most favorable cases that the actual value of all food absorbed from the rectum did not exceed 300 calories a day, or less than one-sixth the amount necessary to the nutrition of a sick man. These results are largely confirmed by the studies of Boyd and Macpherson. These findings of the laboratory appeal to us most forcibly if we consider certain fundamental facts in the physiology of digestion and absorption.

We find first that the process of digestion is practically completed in the small intestine and that so little digestion of food takes place in the large intestine as to be a negligible quantity in the nutrition of the body. We further find that absorption from the large intestine can only take place by endosmosis, while in the small intestine the food is taken up by endosmosis, filtration and diffusion, these processes being facilitated by the character of the epithelium, by the multiplication of the small blood vessels and by the great number of lymphatics. In the mesentery of the large intestine, the number of lymphatic glands or lymph stations is only 20 or 30, while in the mesentery of the small intestine the lymph glands number 150 to 200, thus further proving the limitation Nature places upon the large intestine in the process of nutrition.

Following this we find that all the proteids contained in the food ingested are absorbed above the ileo-caecal valve except about 14 per cent. This small per cent. of proteids together with a varying proportion of sugar and fat pass through the ileo-caecal valve and at once begin to be broken up by putrefactive bacteria into various end products to be in part absorbed and excreted by the kidneys (indol phenol, &c.,) or thrown off in the feces (skatol, &c.).

Let us further recall the fact that the end

products of digestion, unabsorbed in the small intestine, pass into the large bowel in a nearly fluid state, while the final residue is passed from the rectum as nearly solid feces, showing conclusively the absorption of water from the large bowel. We are thus brought face to face with the fact that in the ordinary processes of nutrition there is no evidence to show that any part of the nourishment of the body is absorbed from the large intestine *except water*.

Another view of the phenomena of nutrition elicits the following facts, viz.:

1st. The study of starvation has proven that proteids alone may sustain life, but the experiments of Edsall, Miller and others show that not more than 20 grams of proteid can possibly be absorbed from the lower bowel in twenty-four hours.

2nd. The study of starvation proves that non-proteids—gelatine, non-nitrogenous fats and sugars taken alone will not sustain life, but will greatly delay a fatal result by lessening the destruction of the albuminoids of the body. But the possible help from the absorption of these foods sinks into insignificance when we recall that several investigators have independently proven the absorption of fat from the lower bowel hardly reaches ten grams daily, while the studies of Reach prove the absorption of carbohydrates is exceedingly low.

3rd. Fasting animals require less water than when taking food. Ingestion of water, however, materially lessens the loss of body weight; increases the excretion of urea and correspondingly lengthens the continuance of life. In the case of Dr. Tanner, who successfully completed a fast of forty days, water was taken freely after the sixteenth day with great improvement in his condition, and in a well authenticated case (Reference Handbook Medical Science, article *Starvation*) a young man lived for sixty-one days taking nothing but water flavored with orange juice.

Is not the practical deduction, then, that at best feeding by enemata is a process of slow starvation and that as a life-sustaining measure they are useful almost entirely for the water they contain or for the nutritive material that may be soluble in water.

If this argument is correct, then two most important conclusions are reached, viz.:

1st. That in cases where vomiting is a symptom possible of relief by operation—cancer or ulcer of stomach, ulcer of duodenum, &c., it is a mistake to delay operation while an attempt is made to build up the patient by nutritive enemata.

2nd. The study of cases of starvation show that life is almost indefinitely prolonged if water is supplied freely. This is so not only because water makes up so large

a percentage of the body tissue, but especially because no elimination of the poisonous waste of the tissues can go on without a supply of water. It follows, then, a patient whose life would be sustained many days by the caloric resultant from the burning of his own tissues, will die quickly when deprived of water because of auto-intoxication from retention of his own waste products.

These facts lead to the following practical questions, viz.:

1st. How shall nutritive enema be given?
2nd. What shall be administered in nutritive enemas?

3rd. How often shall nutritive enemas be given?

First, then, no effort should be made to do the impossible in an attempt to pass the rectal tube through the sigmoid, for this is impossible and will result in irritation of the bowel and defeat of our purpose. The hips of the patient should always be elevated. If on the operating table, the patient should be in the Trendelenburg position and if in bed the foot of the bed should be elevated on a chair. A position on the left side is also best. The rectal tube, previously well oiled and filled with the fluid to be administered, is now inserted very gently and slowly into the rectum a distance of four or five inches and the enema allowed to flow very gradually into the rectum and thence by gravity into the large bowel.* This can certainly be done if we avoid the injection of air into the bowel by filling the tube with liquid before insertion and by preventing distention of the rectum at any time by keeping the receptacle containing the enema not higher than 12 or 18 inches above the patient's hips, thus maintaining low atmospheric pressure. Many a failure in rectal alimentation is due to lack of these simple precautions.

What Shall we Administer in Nutritive Enemata?

Let your main dependence be water. Most of the nutritive enemata recommended are largely based upon tradition and there is little reason to believe anything is absorbed except the water they contain, the residue being broken up by putrefactive bacteria, and it is a question well worth considering. *Are not albuminoids in the large bowel liable to be broken up into poison-*

ous ptomaines that may become serious sources of danger to the patient? If albuminoids are given by the bowel, certainly they must be predigested, and the recent studies of Kendall (Journal A. M. A., April 15, 1911) showing the effects of carbohydrates on the intestinal flora, make us believe that in all such enemata small quantities of sugar would go far to prevent putrefactive change. It is especially significant that water holding in solution certain salts is more readily absorbed than plain water. In this way solutions of grape sugar, dextrose or lactose may be used, and since we know that cane sugar and starches pass into the liver for final metabolism only as glucose or its congener, dextrose, we have in solutions of glucose something requiring no previous digestion to become available, and though not absorbable in large quantities, it will interfere in no sense with the absorption of water and is abundantly heat-giving and hence a life-saving power.

Let us also remember that a frequent source of failure in the administration of enemata is that the bowel becomes intolerant and that water, or water holding in solution low percentages of entirely soluble matter, is better tolerated than any other enema. The lesson is plain: when the need is urgent, normal salt solution or water holding in solution low percentages of glucose offers the greatest possibility of help.

How often shall Nutritive Enemata be given in Surgical Cases?

The answer depends on the exigency. If the patient has lost much blood, then the empty vessels will absorb very rapidly. A quart of normal salt solution will be quickly taken up and the enema may be repeated in three or four hours. After two or three such enemas the vessels will absorb less freely, the quantity should be reduced to a pint and if there be the least intolerance the time interval increased to six or eight hours.

Under these circumstances, it is a mistake to attempt to add proteids or carbohydrates to the enema, as we cannot risk the irritation of the rectum by the splitting up of these foods into gases and ptomaines.† If the patient has not lost blood, then absorption will be slower, and if water is being given to combat thirst and stimulate elimination, then a pint of normal salt solution every six hours is about all the bowel will take care of and it will not do to risk irritating the bowel for fear it will retain

*In all of my laparotomies, before closing the abdominal wound, a quart of hot normal salt solution is introduced into the bowel, with the patient in the Trendelenburg position. This has not only the good effect of stimulation, filling up the depleted blood vessels and lessening subsequent thirst, but it straightens out kinks in the sigmoid and helps carry the sagging transverse colon into proper position.

†One of the most popular traditions is that if the rectum is irritable, twenty drops of laudanum should be added to the enema, which of course is foolish, as the laudanum would not be absorbed faster than the enema. A hypodermic of morphia thirty minutes before the enema would be rational.

nothing. It is also a pertinent question, Can we do harm by flooding the tissues with sodium chloride? I have seen salt solution administered by rectum until the patient (unconscious of what was being given) complained of a briny taste in the mouth, and it is a very wholesome fear that the kidneys may become irritated by the sodium chloride, especially if there be present either an active or latent nephritis.

If there is no immediate call for water in quantity and the purpose is simply to furnish caloric to tide the patient over a crisis, then resort may be had to the strictly so-called nutritive enemas.

Let us not forget that after all water is the principal ingredient of these which accomplish good, and that low percentages of grape sugar in solution are more likely of absorption in helpful quantity than any of the animal broths or mixtures of milk and eggs.

304 Freemason St.

Backache from a Surgical Standpoint.*

By James M. Parrott, M. D., Kinston, N. C., Chief Surgeon Memorial Hospital.

Many years ago, the profession, strange to say, held the opinion that "backache" indicated "kidney disease." Just why no one knows. From a clinical standpoint, there is nothing relative or in common between them, except the very vague indefiniteness of each expression.

Later, after much reasoning, the doctors arrived at the conclusion that a pain in the back, unless due to an injury, meant an anomalous attack of rheumatism, and called it lumbago, due either to trauma or "catching cold." They varied the monotony of this diagnosis under certain conditions, as after railroad accidents, and called it Traumatic Neurasthenia, or, according to the nomenclature of the medical expert, "Railroad Spine."

I regret we have not yet gotten away from this rheumatic or traumatic idea, though we seem to be moving forward. Here and there we find a physician who takes the same view of a pain in the back which he takes of every other pain, namely, as worthy of investigation, and seeks to find the real cause. To the doctor who discriminates these pains in the back offer great reward by unfolding before his professional view a panorama of great interest and much value.

It is really fascinating, so rapidly does the mystery involved in a "pain in the back" unfold itself after a careful and painstaking investigation. A patient presents himself and says, "Dr. I have a most

persistent pain in my back." A casual inquiry elicits the fact that the pain apparently is the only symptom, and that it has been rather troublesome, and for sometime gradually getting worse, until recently; and now about as usual. A careful investigation will present an entirely different picture more often than some of us suspect. Instead of dealing with a malinger, or true lumbago, or neurasthenic (whatever that vague indefinite condition is) we may have either one of several real serious surgical affections. For example, it may be a lesion of the sacro-iliac joint, a sub-diaphragmatic abscess, a postperitoneal malignant growth, an appendicitis, adhesions involving the biliary tracts or gall stones, or gall stone disease, or, and more often, a stone in or other surgical affections of the kidney or ureteral calculus.

I know it strikes one as rather far-fetched that either of the above lesions or diseases should be taken by any medical man for only a "pain in the back," and treated as a simple condition ingrafted upon a patient with a real smart imagination working overtime. Of course, a careful investigation would lead one to the right conclusion, and eventually establish a more or less accurate diagnosis.

It does not become any of us to smile when such a mistake as before indicated is made. Who of us is entirely guiltless himself? I know I live in such a glass house and shall throw no stones. I have made such errors, and have later discovered them; have made such mistakes and had colleagues find them, much to my chagrin.

Careful, painstaking study, extending over a period of days, if necessary, of all patients suffering with lumbar pain will do both the surgeon and the patient a great deal of good. For example, W. H. consulted me for pain in the back. Over a period of several years, he had had pain of more or less severity in the lumbar regions. It had gradually grown worse and he was beginning to manifest neurotic symptoms. He presented marked evidences of emaciation. He had been treated by various methods by several physicians, and had become to be looked upon as a more or less neurotic. Almost every medicine in the United States dispensatory had been given him, and every imaginable treatment pursued, including rubbing, porous plasters and various "leg-pullings." A careful examination led me to the conclusion that he had a renal stone. He gladly accepted the opportunity of an operation. Several stones were removed from the pelvis of the kidney, and in due course of time he was restored to his usual health and vigor.

Ureteral, or renal stone, and other surgi-

*Read before Surgical Section North Carolina Medical Society at the recent meeting at Charlotte.

cal affections of the kidneys not rarely refer the pain more to the front, and then quite nicely resemble appendicitis, disease of the biliary tract, gall bladder diseases or one of several other more or less serious affections. I have seen more than one illustration of the tendency of the lumbar and anterior abdominal and pelvic regions to exchange courtesies, by referring pains to each other. This is seen quite frequently in females and is more often the case with adhesions around the biliary tract than is supposed by many medical men.

Traumatic backaches are very treacherous. A case presented itself to me some time ago which gave a clear-cut history of trauma and yet was a case of renal stone. He fell from a cart and immediately thereafter the pain began in the lumbar region. As usual for such cases, many sorts and kinds of treatment were pursued. Disgusted with it all, the patient turned to surgery for help, and I removed several stones from kidney, much to his great gratification, and witnessed his prompt and early restoration to health.

These cases suggest what I intimated in the beginning of this article, and which I desire to emphasize again, and that is that every case of "pain in the back" should be carefully studied. These cases should not be dismissed at once as simple conditions until we have satisfied ourselves that there is nothing serious in the background.

What Aid is the Laboratory in Diagnosis?*

By John Hill Tucker, M. D., Charlotte, N. C.

The object of this paper is first, to disclaim any other purpose than an attempt to answer the above question from the standpoint of one doing special work.

For as one specializes in medicine his work naturally becomes more confined to the details of medicine, and if he is what the name should imply, a specialist, he is often called upon to give an exact diagnosis and probable prognosis. Of course, both within reasonable limitations, and as a rule to a brother physician who has referred to him the patient. These patients are referred for a two-fold purpose; first, the patient seeking relief; secondly, the regular consultant requesting aid in special conditions for which he neither has the time nor the necessary means at hand to do the work.

Again referring to the hypothetical title of this paper, "What Aid is the Laboratory in Diagnosis?" To the writer's mind the honest, well-trained and diligent worker in a practical laboratory is the High Priest in

the Sanctum Sanctorium of the Temple of Progressive Medicine. In this day of multiplied specialists, the real pathologist in his workshop should be looked upon as the specialized specialist. There has been of recent years a reactionary attitude on the part of some as to the real value of the laboratory in diagnosis. However, the laboratory is, and will continue to take its place in modern medicine. Just as the regular practitioner has a perfect right to expect and to demand of the man who announces himself a specialist, an accurate and special knowledge of certain conditions, so have all classes of medical and surgical men a right to expect of the pathologist, special and most accurate knowledge and method of doing this the most important of special work. I feel confident that there is not a gentleman present here tonight, who, in looking back through the varying years of his experience, would not agree in the conclusion that whenever he has been misled by the laboratory findings in his own cases, it was due to either careless or inaccurate work in the laboratory or a failure on his own part to correctly interpret the laboratory findings along with the clinical symptoms present.

It is well and generally known that the laboratory findings in each case should be considered only as one of the symptoms which must be recorded and studied in the hope of obtaining a complete and instructive clinical picture. In fact it is necessary to good work that the laboratory findings and clinical symptoms should never be separated. Therefore, our best pathologists are more and more refusing to hazard the usefulness of the laboratory by accepting specimens for examination without an accompanying report of the clinical symptoms, and knowledge of how the specimens were secured. For where could be the wisdom of reporting the tubercle bacilli accidentally present in the sputum of a man without elevation of temperature, or pulmonary symptoms, as being a case of tuberculosis of the lungs. On the other hand, appalling is the folly of waiting to treat a well advanced case of pulmonary tuberculosis with marked clinical symptoms until the bacilli are found in the sputum. Only a few days ago, a gentleman of this society was overheard to remark, "How wrong it is to jump at conclusions from the laboratory reports when taken alone." He gave as an example a case that he had recently seen which was being treated for nephritis, the diagnosis being based upon the facts that there were casts and albumin found in the urine; whereas, upon closer inspection it was ascertained that the patient was not suffering from a kidney lesion at all, but

*Read before Mecklenburg Medical Society, July 4th, 1911.

an organic heart trouble. The patient later dying without kidney involvement. It is needless to weary you with the endless recitals of such cases of mistaken diagnosis when the laboratory findings or the clinical picture is taken alone. However, I desire to report a case in point, and I do so with the permission of the general practitioner who made the diagnosis for two eminent specialists.

The case in question was one referred by an Eye man to a general practitioner with the request, "This patient's eye conditions have been steadily growing worse." His urine examined by another specialist showed albumen casts and chronic nephritis. Please take patient in charge and do anything you can for him. Now the general medical man, wiser than either of the specialists referred to, started his own investigations of the case. The reports of the two specialists were before him as only symptoms of a complicated condition, i.e., albumin and casts, and certain changes in the eye grounds suggestive of chronic nephritis. This medical man, (and I cannot refrain from here stating parenthetically that the more deeply I am involved in special work, the more confident I daily become of the fact that the real welfare of the health of the human race rests not so much in the hands of men whose medical horizons are confined to one or two organs, and are designated specialists as in the vigilant keeping and care of the general man who learns from constant contact with all kinds of specialists to place the findings of the specialists where they rightly belong, often as symptoms, or contributing causes of disorder in more or less a complicated condition. To use a rude simile that "the dog wags the tail, not the tail the dog.")

To return to the history of the case we were considering, the medical man began to look around for some causal factor in the condition of his patient. Not being satisfied with the completeness of the study of the case, he appealed to the laboratory once more. Having previously obtained a suspicious history, he asked for a Wassermann. The report was confirmed as a positive Wassermann.

The patient was at once placed on intramuscular injections of the salicylate of mercury with the immediate result of marked improvement of all his symptoms, including those of the eye and kidney. This case of a man going to a specialist for his eyes, will serve to illustrate the object of this paper. The specialist and the laboratory in the first instance were quite right as far as they went. However, they left the case for the medical expert to finish, which he was enabled to do by the previous find-

ings of the specialist and laboratory, and again appealing to the laboratory for additional help, which was demonstrated in this well known blood reaction. To briefly conclude these few desultory remarks let us sum up the matter with the assertion: the laboratory can no longer be looked upon as a luxury, but must be deemed a vital necessity in the practice of every successful medical man, be he general practitioner, surgeon or specialist.

Certainly the specialist who is not constantly calling upon the laboratory for help will soon fall out of ranks in the onward march of progressive medicine. Now, if this statement be true, how important it is that the best trained and most painstaking of specialists should go into the field of pathology and bacteriology. It must then go without saying that it is the bounden duty of every brother physician without class or distinction to see that the material turned in for examination is properly gotten and preserved for the laboratory. Not taking a smear of blood on a dirty slide and mailing it two days later to a laboratory with a request for an examination for malaria. With each specimen there should be given a brief history, including symptoms. This gives the pathologist an increased interest in the work before him.

Now of a class of men we must depend so largely upon to straighten out our diagnostic dilemmas and more than any other class to give us reputation as diagnosticians, and whose life work is in the remoteness of the laboratory. It is our duty not only to see that they get the work, but to see that they are well paid for it. It was with a self conscious feeling of guilt I heard a pathologist some months ago remark: "I believe some people think we can live and work sixteen hours a day on air." To summarize in view of the conclusion that the laboratory is a necessity in the practice of every successful medical or surgical man, I submit in my own belief, in the order of their true importance, the three conditions under which the laboratory can be made most helpful:

First. That the man behind the test-tube and microscope should be of the highest order, best trained, and most exact of medical experts.

Second. We should use the laboratory whenever it is indicated and always being willing to recognize its true limitations.

Lastly, the clinical symptoms and laboratory findings should never be considered apart, neither at the bed side nor in the laboratory.

The Gradual Reduction vs. the Hyoscinic or Quick Withdrawal Method in the Treatment of the Morphine Habit.

By W. C. Ashworth, M. D., Greensboro, N. C.

The history of opium using in some form dates back almost from time immemorial. The original home of the poppy was in the Valley of the Nile, and the use of the drug antedates by several centuries the earliest Egyptian Civilization. In the Odyssey Homer mentions a mysterious drug that was sent to Helen of Troy, and we have reason to suppose that he refers to opium. It is said that Hippocrates, the Father of Medicine, recommended opium for his patients, and we are told that the ancient priests indulged in its use, being very enthusiastic as to its value to the world. They believed that the opium led the mind into the realms of the Spirits and that the sleep following its use was a bridge to connect the mortal world with the home of the gods.

There are many curious legends concerning the discovery of the effects of opium. One of them has it that an Egyptian prince was lost on a hunting tour, and, becoming exhausted, he was carried to a hut and placed on a bed of poppy leaves. There he slept for two days, finally rousing with unusual vigor, mentally and bodily. This story seems to have been credited and to have formed the basis of many others concerning the medicinal value of poppy leaves, which appealed to the people as being a remedy direct from the hand of the Deity.

Morphinism is, however, a modern disease, and threatens to be one of the most serious menaces accompanying 20th century civilization. Neurasthenia and brain storms are new differentiations of nervous defects incident to the times, and morphia is the new solace which gives temporary relief, while masking the real condition and increasing and intensifying the trouble.

But close on the realization of the danger that lurks in the veins of the poppy came the demand for remedial measures in the cases of those who had succumbed to the seductive poison; and morphinism and its treatment is a subject that calls for the conscientious consideration of every physician who handles the drug today.

The literature on the treatment of drug addictions is so meagre that I will be compelled to speak largely from the experiences of my calling, which has caused me to be almost constantly associated with this class of patients for a number of years. I have sat at the same table with them; I have watched at their bedside, day and night; I have taken part in their recreations; I have listened to their histories and received their confidences, and studied their characters

asleep and awake. The result of several years of close, daily association with these men and women is an overwhelming amount of evidence in favor of the theory that morphinism is a disease rather than a voluntary vice.

The invention of the hypodermic needle by Pravoz in 1865, and the introduction of its use by physicians in the French army, inaugurated a new era in dermatic medication.

One of the first and most serious phases of morphinism with which we have to contend is the profound fascination of the needle. In most cases the rapidity and certainty of its effects without unpleasant consequences leaves a mental impression not easily effaced. The restful calm which follows the prick of the needle is both psychological and physiological in its effects. It is now a recognized fact that there is a veritable needle mania, demanding that drugs be taken in this way. There is a confidence on the part of the users that the power of the drug will be increased and the action more certain if taken by means of the needle.

Some cases of needle mania are very interesting. I have had patients beg me for the needle prick, knowing at the same time that no effect other than psychic would be produced. I have seen these patients prick themselves with rusty needles that had been discarded as worthless.

The craving for morphine is more persistent and difficult to overcome than the desire for whiskey, and the effects of the drug are far worse upon the psychical and mental organization. The higher the brain culture and development, the more certain and persistent are the disastrous effects of morphine. The early use of morphine, and sometimes its continued use for years, may exhibit but little physical impairment in the habitue, but in all cases the will and moral forces suffer from the beginning.

Morphinism is classed by some authorities as a form of insanity, and certainly the use of the drug gradually leads to disease of both the brain and nervous system. The constant narcotism of the higher brain centers impairs their integrity and destroys their normal activity. My observation is that when the craving for morphine becomes serious and imperative during the withdrawal of the drug, the indications are unmistakable of serious and possible permanent impairment.

The fascinating physiological action of morphine, which enables the nervous and confused brain worker to regain his mental clearness and self possession after taking a single dose of this drug, creates a demand for its use that threatens the highest moral

and mental forces of the times. One dose will enable the over-worked, worn-out physician to take up the labors of his arduous profession with new energy and enthusiasm for the time being, but alas! the effects of the one dose do not suffice for long and it must be repeated again and again, until the man, who thought to simply be tided over a crisis in his work, finds himself in the toils of the enslaving tyrant.

The extent of drug using is appalling and far beyond the imagination of the general practitioner. There are many causes assigned for the increase in the use of opiates, and all, no doubt, contribute their quota to the sum total of results.

That the State-wide prohibition law recently enacted, but poorly enforced in most localities, is contributing much to the inordinate use of drugs cannot be denied. It is apparent to the most casual observer that the whiskey now used by most whiskey drinkers is of very inferior quality, and as a consequence the injurious effects are more pronounced. The nervous system of the consumer of the cheap chemical whiskeys is soon wrecked; therefore the transition to the use of drugs is easy and rapid. I think I am safe in saying that fully 80% of all drug users give a frank confession of having used whiskey to excess. The unfortunate result is natural and the reason obvious, when we take into consideration the fact that there must come a time in the history of every man who drinks whiskey to excess when the whiskey fails to satisfy the abnormal craving for artificial stimulation.

Just here I wish to utter a word of warning to physicians against the common practice of administering morphine to their inebriate patients. The nervous system of the intoxicated patient is abnormally sensitive to morphine, and it is a very easy matter to supplant the whiskey habit by producing a case of morphinism.

Without doubt another important factor contributing in no small degree to this widespread disease is the strenuous life necessary to meet the increased cost of living. It seems that almost numberless people must resort to opiates and stimulants to keep up their flagging courage and energy.

Authorities differ very widely as to the best course to pursue in the treatment of the drug habit, but it is generally conceded that the treatment should be essentially eliminative in its nature rather than sedative. Opiates which check the secretions should be avoided as much as possible. One of the first requisites in the successful treatment of morphinism is to recognize that it is a disease. Unnecessary as this statement may seem, we find many who do not

believe it today. It stands to reason that the doctor who starts with the belief that his patient has no disease is not likely to effect a cure.

To find a substitute drug which will completely and safely relieve the discomfort and uneasiness following the withdrawal of morphine is the dream of the credulous physician and the boast of the charlatan and quack, but so far it is unrealized. The action of hyoscine on a highly sensitive, irritant brain may produce disturbances and mental conditions of great danger. Like chloral, the pleasing narcotism and sleep which follows its use may develop congestions and irritations of a most serious nature. It certainly is a very toxic drug, and its peculiar action should be recognized in all confused cases.

My experience with hyoscine leads me to believe that that method of treatment is rather noted for its quick cures and correspondingly quick relapses. The weakened nerve centers call for prolonged tonic treatment rather than the sudden shock incident to the sudden withdrawal or hyoscine method.

The temporary cure of the morphine habit is usually a simple matter if the patient is confined and hyoscine is administered, but the permanent cure of the habit by this method is a very rare occurrence, as those experienced in this line of work will admit. Statistics on the result of the treatment of the morphine habit are useless unless they show permanency of results, and I have rarely seen those that did when the hyoscine method was employed.

Another objection to the hyoscine method is the fact that nearly all morphine users are borderland patients mentally; consequently the use of hyoscine is contra-indicated from this fact alone. The reconstruction of the patient's will-power and self-control, which is the sine qua non of a permanent cure, cannot be accomplished by the hyoscine method. The best possible opportunity for such reconstruction is offered by the gradual withdrawal method. We are not re-educating self-control when we force oblivion on the patient by the use of hyoscine.

I use the gradual reduction method of treatment, coincident with the administration of strong reconstructive tonics, which enables me in most instances to withdraw the morphine with only a negligible amount of discomfort. In fact, the discomfort is so slight that the patient is seldom aware when the drug is entirely withdrawn. The reduction is made in a very tentative manner, and never so rapidly as to produce any undue shock to the nervous system or circulation.

The rapidity of the reduction should be regulated by the tolerance of the individual as manifested by the withdrawal symptoms. During the period of reduction the patient should be safeguarded but not incarcerated. I do not believe in treating the average morphine patient as an irresponsible, but rather in securing his confidence by giving him mine and the assurance that I will do all in my power to help him make the fight and prevent any serious suffering.

The gradual reduction method offers the greatest advantages for the building up of the broken down nervous system and the re-education of the deficient will power and self control. It requires time to drill into the narcotic mind of the patient that it is possible to live without artificial stimulation. Extensive experience in the treatment of the morphine habit and close study of the experience of others convinces me that the patient should be backed out of the slough of his habit in very much the same manner that he entered, namely: rapidly or moderately, according to the way in which he became addicted to the use of the drug. The immediate withdrawal of the morphine shocks the nervous system so severely as to permanently weaken it, and consequently the subsequent self-control of the patient. For this reason I advise the withdrawal of the morphine along the same general reverse lines as the periodical increasing dosage of the drug was acquired.

No individual can be permanently cured of the morphine habit without active, scientific help. I believe that the dosage should be lowered to a certain point and held there for several days without attempting further reduction until the patient is accustomed to the lessened amount. In this way the withdrawal symptoms are usually limited to the first few days of reduction. I always advise a sharp reduction to start with, as most patients are taking a great deal more morphine than they need to prevent unbearable symptoms.

In the average case the total withdrawal should not be undertaken until the patient is down to a very small daily amount, say about 1-16 of a grain in twenty-four hours. I always give the last dose at bed-time when the patient is only taking one dose daily.

The morphine should be given hypodermatically, regardless of the former method of taking it by the patient, and combined with each dose should be given strychnine, sparteine and such other stimulants as will best support the circulation.

To promote sleep during the time just prior to and following the withdrawal of the drug I use bromide of sodium, hot

spinal fomentations, electric light baths, veronal sodium, trional, etc., but never use chloral. For the intercurrent nervous symptoms and the pain incident to the withdrawal period aspirin, gelsemine, vibratory massage, hot baths, etc., have proven of marked benefit.

Give an abundance of purgatives throughout the treatment and less morphine will be required. Many of the withdrawal symptoms are the result of auto-intoxication produced by the enervated condition of the bowels and stomach as a result of the morphia.

The diet should be bland and unirritating, especially during the final withdrawal period. Often the craving is greatly increased by acute indigestion produced by overeating. A diet should be outlined that is adequately balanced and absolutely free from food leaving much residue or that is apt to cause fermentation.

Both Erlenmeyer and Jennings are strong advocates of the use of bicarbonate of soda for the relief of indigestion during the treatment. In fact Erlenmeyer terms it, "chemical demorphinization."

The symptoms following the withdrawal of the drug are real symptoms, although the patient may exaggerate them. But the physician who fails to realize the positive reality and severity of the symptoms following the withdrawal of morphine will usually fail in the permanent cure of the habit. It is not difficult for him to differentiate between the assumed and the real, because there are so many objective symptoms that may be easily detected.

The central fact to be remembered is that the withdrawal of the morphine is not the end, but only the beginning of the treatment. A long period of building up and restoration must follow before the brain and nervous system can attain the degree of vigor essential to control the neurotic symptoms which appear in the wake of the morphine.

During the reconstruction period the patient should be regarded as a nervous bankrupt. All physical or mental strain should be avoided and cheerful surroundings with light mental diversion are necessary adjuncts to the regular treatment. The patient should not be allowed to return to his customary occupation for several weeks after the withdrawal of the drug.

I have given only a brief resume of the treatment to be used in the relief of morphinism, as it must in all cases be modified to suit the temperament and idiosyncrasies of the patient. Before accepting a patient the physician should have it plainly understood that he is to have absolute control of the patient throughout the treatment, also

that he does not intend to incarcerate the patient, but that certain restrictions will be imposed, which, if disregarded, will relieve the doctor of all responsibility in the case.

There is no royal road to the cure of the morphine habit, and there will never be any treatment which does not entail a certain amount of discomfort on the part of the patient. When you hear of a case of morphinism cured without any suffering, you may be assured that the patient was surreptitiously taking the drug during the "cure" and is most likely taking it now.

This is an old subject in many respects and, threatening as it does the very flower of culture and morality, it is one that cries for our earnest attention. The successful annihilation of this dread monster is a difficult question to solve.

What then? shall we sit idly down and say
The night hath come; it is no longer day?
The night hath not yet come; we are not
Quite cut off from labor by the failing light;
Something remains for us to do or dare;
Even the oldest tree some fruit may bear

Further Observations as to the Diazo Reaction in Tuberculosis with Interesting Observations as to Racial Differences in Whites and Blacks.*

By John Roy Williams, M. D., Hendersonville, N. C., Formerly of Greensboro, N. C.

At a meeting of the Medical Congress, 8th District of North Carolina, held at Winston-Salem, N. C., January 7th, 1907, I read a paper entitled "The Prognostic Value of the Diazo Reaction in Tuberculosis; with Interesting Observations as to Racial Differences in Whites and Blacks." I reported the first one hundred cases of tuberculosis coming under my care at Greensboro, N. C., of which seventy-three were whites, twenty-seven being negroes.

Finding the Diazo reaction present in 61% of my advanced white cases, failing to find it present in a single instance in my advanced negro cases, it seemed to me there was a distinct racial difference. Of the seventy-three white cases, thirty-nine of them were in the advanced stage, and in twenty-four of them I found the reaction. Of the twenty-seven negro cases, fifteen were in the advanced stage, and in none of them did I find the reaction. These observations suggested to me the question, "Does tuberculosis produce the Diazo reaction in the urine of the negro; and if not, what is the scientific significance?"

I reported that in the twenty-four white cases giving the reaction, it permanently disappeared in two, with an apparent arrest

of the disease under treatment, while twenty-two of them continued to give a persistent reaction, all of which either grew worse or died while under my observation. This seemed to show that the persistent presence of the Diazo reaction was an unfavorable prognostic sign in 88.5% of those advanced white cases giving it. According to the literature which has come to my notice, this seemed to confirm the findings of all other observers.

I reported that I had seen the reaction in the urine of the negro suffering from typhoid fever; and a little investigation has shown me that others have also found it under similar circumstances, showing that there is a possibility of the occurrence of the reaction in the urine of the negro. But, is the chemistry of the Diazo reaction the same in typhoid fever and tuberculosis? If it is not, then what is the deficiency in the negro which accounts for the absence of the reaction due to tuberculosis? In that report, I reached these conclusions, to wit:

"The absence of the Diazo reaction in the urine of white tuberculous cases, is a favorable prognostic sign as a rule."

"The persistent presence of the Diazo reaction in the urine of white tuberculous cases, is an unfavorable prognostic sign as a rule."

"The absence of the Diazo reaction in the urine of the tuberculous negro is of no prognostic value."

"There seems to be a racial difference, probably of a chemical nature, which accounts for the absence of the Diazo reaction in the urine of the tuberculous negro, and for its presence in the advanced cases of tuberculosis in the whites."

I have never seen nor heard of similar observations having been made as to the Diazo reaction, with possible racial differences in whites and blacks; so that I have no literature to offer you to confirm or disaffirm my observations. The only article I know of that has appeared in the literature in this connection, is one in the Medical Record, March 23rd, 1907, which was written by myself.

I have gone further with my observations, and wish to here report a second hundred cases which has been discharged for sufficient length of time to give accurate figures. They show but slight differences from the first hundred cases as to the presence or absence of the reaction, and no differences as to the prognostic value. In fact, the observations are so similar in the two series of cases, that they seem to confirm each other. I have still more cases to report, but they have not been discharged for sufficient length of time to give accurate data.

*Read before the Henderson-Polk County Medical Society, April 4th, 1911.

Observers are practically of one opinion in holding the persistent presence of the reaction in tuberculosis to be an unfavorable prognostic sign. I shall not here recite the literature quoted in my first report, as you doubtless have it in your library, and can easily look it up if you are interested. But, as cited in my first report, I have seen the reaction disappear in a few cases with a favorable termination of the disease. Allow me to suggest that it should always be looked for in tuberculosis, for I believe it to be of great assistance in arriving at a more correct prognosis in your cases. You should have a care, however, in differentiating as to its being due to the existing tuberculosis, or to some concurrent disease from which the patient may at the time be suffering, or has suffered on some previous occasion.

Since reading the paper before the Henderson-Polk County Medical Society, I have had occasion to note the report of Levinson, in the Medical Record, April 1st, 1911, in which he claims that a false reaction is obtained in the urine of those who are taking phenolphthalein; and in which he points out a chemical procedure by which it can be differentiated from the true reaction. I would also cite you to Lafferty, in the Charlotte Medical Journal, March, 1911, in which he writes of some of the chemical substances found in urine at times which are thought to be causative factors in producing the reaction.

It seems unnecessary to go into the technique of the reaction, for it should be well known to you. But in this connection, I beg to quote from my former report, this (to me) very interesting observation: "A specimen of urine taken from the first passed in the morning is selected for examination. As soon as possible after its passage I make the test. If my first test is negative, I allow the urine to stand for twenty-four hours and again test it. I do this for the reason that on three different occasions, when associated with the Winyah Sanitarium at Asheville, N. C., I applied the test to specimens of urine which were still warm with the body heat, and failed to get the Diazo reaction; yet allowing the specimens to stand for twenty-four hours and testing again, in each instance I obtained the Diazo reaction, which shows that a single test is not reliable."

I shall not attempt to enter into a discussion as to the chemical nature of the reaction, nor as to why it is a prognostic sign. These things are interesting from a scientific standpoint it is true; but at best, we have only theories, which are still unconfirmed and are open to reasonable debate,

and are more properly suited to the physiological chemist.

In this, my second report, I am more fortunate in having a larger per cent. of negro cases than I had in my first. This should add more interest, and be of greater value from a confirmatory standpoint. While I feel satisfied in my own mind that there is a distinct racial difference, and believe that I have already had sufficient number of cases to determine it with more or less degree of certainty, yet I shall continue my observations until I shall have several hundred cases of both whites and blacks upon which to report. And I am firm of belief that my former observations will be confirmed by future ones.

Of my second hundred cases, sixty-one of them were whites, the remaining thirty-nine being negroes. Thirty-one of the white cases were in the advanced stage of the disease, nineteen of which gave the reaction on beginning treatment; two others developing it later, one at the third week, the other at the sixth week, making in all twenty-one white advanced cases giving the reaction, or 70%. There were nine advanced white cases which did not give the reaction, seven of which either improved or had an apparent arrest of the disease, the other two growing worse while under my care. So, of the advanced white cases which did not give the reaction, there was an improvement or arrest of the disease in 66 2-3% of them. This seems to show the absence of the reaction in white cases to be a favorable prognostic sign.

In one of the white cases of this series, the reaction disappeared at about the end of the fourth week. This patient remained under my care for about seven months and made marked improvement. He left me, going to the West, and I have never heard from him since. But the twenty cases in which the reaction persisted, all grew worse while under my observation. Never once have I seen a case of tuberculosis which gave a persistent reaction, that responded favorably to treatment.

Of the thirty-nine negro cases, twenty-one were in the advanced stage of the disease, in three of which I found the reaction. At first, this seemed to fail to confirm my original observations; but on second thought I reached the conclusion that there is another explanation for it. Two of these negroes had considerable white blood, while the third one seemed, on inspection, to be of unmixed blood, but gave a history of typhoid fever about five months before coming to me. Also, I appreciate that even this case could have had sufficient white blood to create a condition necessary to permit the reaction. Although it did not

seem evident on inspection that there was any white blood in this negro, still you know it is more than difficult to get a history of mixed blood from most of them. But, in this case, even in the absence of white blood, the reaction could have been due to a persistence from the previous attack of typhoid fever. All of these three negro cases which gave the reaction grew worse while under my observation.

Combining the one hundred cases of my first report with the one hundred in this one, we have one hundred and thirty-four white cases, of them sixty nine were in the advanced stage of the disease, of which 65% gave the reaction. We have sixty-six negro cases, thirty-six of which were in the advanced stage of the disease with but 8% giving the reaction, and the reaction in these instances being of a doubtful origin. If there be no racial difference, and the reaction being present in 65% of the advanced white cases, then we might have expected it to be present in at least twenty three of the advanced negro cases. Leaving aside the assumption that the reaction does not occur in the full-blooded negro, then why did it not occur more often than it did in these cases here reported.

I am strongly inclined to believe that tuberculosis does not produce the Diazo reaction in the urine of the full-blooded negro. But, given a case of tuberculosis in a negro of mixed blood, the reaction may occur; and as in the three instances here reported, it is an unfavorable prognostic sign.

The Treatment of Ileo-Colitis.*

By K. P. B. Bonner, M. D., Morehead City, N. C.

It has oftentimes been said that "the more that is written about the treatment of a given disease, the less is really known about it." This saying is especially true about the subject under discussion. If any person, who had years of leisure at his disposal, was to devote the time to collecting the literature on ileo-colitis and incorporating it into a series of volumes it would easily equal the library of the majority of the leading physicians in our State. The grim reaper, each summer, continues to claim too large a percentage of our rising generation, and this percentage shows little or no decrease in spite of the voluminous literature. It is true that in the large cities of the North much has been accomplished toward lowering the death-rate by establishing milk-depots and an inspection of the milk supply. However, even in these cities much remains to be accomplished. These

few cities contain only a small part of the population of our country, and nothing is being done beyond their borders. The average physician in North Carolina today knows practically nothing of the treatment of ileo colitis and when he turns to the text books for aid he usually emerges more confused than when he started. Our searcher after light always finds plenty of treatment(?) but in such a tangled and incoherent mass that he is unable to select what he really needs. What is true of the man in active practice, applies with double force to the student. Ninety-nine out of a hundred students of medicine leave college at their graduations with their heads stuffed full of milk formulæ, and with not the slightest conception for a rational plan of treatment for one of the most prevalent diseases which they will encounter from the very first.

A paper that merely consists of a lot of collected statistics and opinions of writers other than the author, while it usually represents the result of the most careful and painstaking study on the part of the writer, never interests me in the least degree; because it does not exhibit the author's bedside experience but that of other men, and for that reason has no individuality. I have always been able to get these things from my text books and medical journals, either in the original communications or from the abstracts. It is my purpose to outline a general plan of treatment for ileo-colitis which, while I am not egotistical enough to believe will prove successful in all cases, will meet the needs of the vast majority. Understand that I am not outlining a routine treatment, as this plan will require modification in numbers of cases to meet the individual peculiarities of the child. The treatment of ileo-colitis will be considered under two heads,—the treatment of acute ileo-colitis and the treatment of chronic ileo-colitis. Each of these headings will be further sub-divided into hygienic, dietary, and medicinal treatment.

Acute Ileo-colitis.—Too much stress cannot be laid upon the importance of the institution of early and energetic treatment for this disease. Numberless cases are neglected until too late, by the parents of this class of patients on account of the delusion that the attack is "a teething spell," or "due to worms," or for some other equally foolish idea and these notions are often encouraged in the parents by their family physicians. When these cases are brought to the attention of the physicians, the majority are treated but indifferently. When we remember that it is from these acute cases that we get our chronic cases, the im-

*Read before the North Carolina Medical Society, Charlotte, N. C., June 20-22, 1911.

portance of prompt and energetic treatment is obvious.

The first indication in the treatment of this disease is to discontinue all food in the case of older children, and in case of a younger child, if it is breast or bottle-fed, to greatly decrease the amount and frequency of feedings. Nothing has a more important bearing on the outcome of acute ileo-colitis than the child's diet. The best plan is to discontinue milk entirely and to substitute in its place barley-water, beef-broth, peptonized foods, and in case milk cannot be dispensed with, skimmed milk. As the symptoms improve, the diet may gradually be increased to normal. Diet is put first because I deem it of most importance.

The next most important point in the treatment of this condition is the hygienic treatment. Daily baths with tepid or cool water, preferably sea-water if at the sea-shore, are absolutely essential and it will be found that in children who rest poorly, that the morning bath is an excellent somnifacient. The patient should have an abundance of fresh air at all times. After the inflammatory symptoms have subsided, a change of air is imperative and children usually improve most rapidly when sent to the sea-shore. On the other hand children at the sea-shore should be sent to the mountains. If you had seen the remarkable and rapid improvement which came solely as a result of being sent to the sea-shore, you would heartily endorse the idea of the importance of a change of air. This transformation comes a great many times without any change whatever in the diet or medicine. While this is true as to the acute type of the disease, it is more strikingly brought out in the sub-acute and chronic cases.

Medicine plays only a secondary part in the treatment of acute ileo-colitis and although of secondary importance, is essential in the successful management of the disease. A word of caution just here,—never drug or dope your cases of ileo-colitis too much if you wish a cure. At the outset of the disease, a brisk purge is indicated, consisting of either calomel or mercury with chalk, to be followed with a full dose of castor oil. The purge may be repeated once but no more; because the second dose accomplishes all that can be done by purging. After the second dose, if it is necessary for the bowels to move, castor oil will fill all the requirements. It is necessary to go back to the origin of acute ileo-colitis to discover the object of administering purges. Acute ileo-colitis is invariably the result of some error in the diet of the child, consequently we give our purge to empty the gastro-intestinal

tract of the offending substances. The subsequent exhibition of castor oil is also to assist nature in ridding the alimentary canal of the toxins that are formed as a result of this error in diet. Whenever the stools continue profuse after this treatment, irrigation of the colon is necessary, and the irrigation should be repeated occasionally if the diarrhoea continues. Frequent and indiscriminate irrigation of the colon is to be condemned in the strongest language, as such a method of treatment causes more trouble than the disease itself. If at the end of the second or third day, the diarrhoea does not show signs of improvement, I invariably begin the use of bismuth notwithstanding the condemnation of many eminent men of its use at this stage. Bismuth has been the sheet-anchor in the treatment of gastro-intestinal trouble for generations and my experience with it has not been disappointing. When bismuth fails, I have never found anything that I could substitute that would even do as well. The greatest fault with the majority of practitioners is that they do not give it in sufficiently large doses and for that reason fail to get the desired results. On this account, bismuth receives a large amount of unmerited abuse. My plan is to give the subnitrate of bismuth in doses of fifteen grains every hour or two to a child of one year and to increase the dose to as much as thirty grains for a child two years of age. I can see no possible objection to the administration of bismuth for the diarrhoea in the acute stage, as it seems to be clearly indicated. Bismuth has a double action, in that it is an astringent and it, also, has a mechanical action in forming a protective coat over the inflamed and irritated mucous membrane of the intestines, thereby allowing these affected parts sufficient time to recover. Bismuth, except for its feeble astringent action, is an inert drug so far as toxic symptoms are concerned, and for that reason I can see no possible objection to the administration of large doses. A good vehicle in which to exhibit the subnitrate is mucilagenous cinnamon water. Cinnamon water is a carminative and, as there is usually tympanites co-existent with the other symptoms, is indicated.

The large majority of this class of patients will usually be convalescent in a short time and the return to normal diet should then begin,—gradually increasing the diet until the child is taking the usual food. These patients should receive the most careful attention as to their diet for the next few months in order to prevent any error in diet as they are prone to have a relapse upon the slightest indiscretion in their feeding.

Chronic Ileo-colitis.—The period of transi-

tion is so near imperceptible from an acute to a chronic case of ileo-colitis that it is practically impossible for one to say just where the acute case ends and the chronic symptoms begin. The sub-acute cases are usually the transitional ones, but the symptoms are ill-defined in the extreme. It is usually from the acute cases that we derive our chronic cases,—those neglected by their parents with the erroneous idea that they will be better in a few days; those receiving careless or indifferent treatment on the part of the physician; and those who even after having the most careful, thoughtful, and painstaking attention on the part of the physician, develop the chronic type of the disease.

Diet is of first importance, also, in the treatment of chronic ileo-colitis as in the acute form. Dextrinized barley-water, rice-water, skimmed or peptonized milk, raw scraped beef, and albumin water make up the principal articles of nourishment to be depended upon in this stage of the disease. Whole milk almost invariably disagrees with the child as their power to digest fats is impaired. The above constitutes practically the entire list of foods necessary for a child other than breast milk if the child is nursing.

In no disease is the benefits of a change of air more strikingly illustrated than in these cases. The sea-shore is especially suited to these little patients as hundreds of physicians in North Carolina can today testify. Many of you have noticed and marveled at the rapid recovery of apparently hopeless cases after a sojourn at the sea-side. As evidence of your acquaintance with this fact, an increasingly large number of babies are being sent to our town every summer. In addition to the change of air, plenty of fresh air and a daily bath, in sea-water if at the sea-side, is necessary.

Here again the medicinal treatment is entirely secondary to the hygienic and dietary treatment. While I am opposed to the unintelligent and routine method of giving diarrhoea mixtures, I am heartily in favor of a continuance of some form of bismuth in the same large doses as in the acute type of the disease. In connection with this, opium, usually in the form of the camphorated tincture is ordered. The bismuth is as strongly indicated for the frequent mucous stools as for the loose watery and foul smelling bowel movements of the acute type. Too frequent bowel movements and straining and tenesmus at and after stool is a clear indication for the exhibition of some form of opium. Frequent defecation is only an effort on the part of nature to rid the system of offending substances. We should assist in the elimination of pois-

onous products from the alimentary tract, and particularly the colon, by giving large doses of castor oil. As a result of this plan of treatment, a nervous, fretful, and restless child is transformed into a well contented and quiet one. It is totally unnecessary that these little ones should have intense suffering to bear as well as the discomforts of the disease itself. The idea I wish to convey is, if possible, clean out the bowels and control the number of stools. It is my opinion that irrigation of the colon in chronic colitis is productive of more harm than good. The passage of a tube over the inflamed and ulcerated mucous membrane, however soft the tube may be, cannot but be productive of harm. It has been nothing unusual to see numbers of cases each summer that were aggravated by this very pernicious practice.

As our case of chronic ileo-colitis improves, a most cautious return to more substantial food should be attempted, bearing in mind always that these little patients are not by any means well for months after their apparent recovery and that we must daily expect a return of the disease unless we are most circumspect in conducting the return to normal diet. The attention to diet must be most vigilant on the part of the child's parents for several months.

Salvarsan in the Treatment of Syphilis.*

By A. J. Crowell, M. D., Charlotte, N. C., Prof. Genito-Urinary and Rectal Disease in the North Carolina Medical College, and at the head of this department in the Charlotte Sanatorium, Charlotte, N. C.

Since the discovery of salvarsan some two years ago by Professor Ehrlich, the medical profession throughout the world has given and recorded the results of its use more generally probably than that of any drug previously discovered or compounded. As a result of this wide spread interest and investigation we have in a very short time a record of many thousand cases to which this most wonderful drug has been administered.

I shall not attempt to review the literature or sum up conclusions reached from the reports of others but give very briefly my conclusions of its therapeutic value after observing the results of its administration in one hundred and ten cases up to June first.

To go into the steps which led up to the discovery of this preparation and the experimental work done in its perfection would require a lengthy paper. I shall, therefore, dismiss this by simply stating that it is a

*Read before the North Carolina Medical Society, Charlotte, N. C., June 20-22, 1911.

strongly parasitotrophic and very mildly organotrophic remedy. That is to say, the drug has a powerful poisonous action upon the spirochaetes and very mild action upon the host or cell, just as quinine acts in a chemical way upon the malarial parasite. Ehrlich's idea that a specific chemical affinity existed between special living cells and definite chemical substances was the basis upon which he worked to accomplish this result. The demonstration of his theory in this drug is a great advance in the science of medicine.

Dangers.—Ehrlich and others who have had a great deal of experience with its use give as contra-indications advanced tuberculosis, nephritis, pernicious anemia, hemorrhage, certain forms of heart disease, and optic neuritis,—all of which I think well to observe and inform your patient, (should he be suffering with any of these), but from my limited experience with the drug, I feel that in such cases the disease is more dangerous than the remedy and we are justifiable in administering it regardless of these. Of the cases we have treated, eight were nephritis, three of which were of the parenchymatous variety in the advanced stage. In two of the cases the kidney trouble seemed to be improved by its use, hence the conclusion that the disease probably had much to do with the kidney trouble. These two cases were suffering with late secondaries. The third and the one not improved by its administration was in the tertiary stage and probably had existed for a long time. There was no noticeable change in the kidney condition following its use. In the other five cases, all seemingly of the interstitial type and chronic in form, syphilis did not seem to be the exciting cause and the nephritis was not improved by the drug. Three of the other cases had manifestations of optic neuritis, all of which cleared up following its use. Two of these were in patients suffering with late secondaries, and the third suffered with tertiary manifestations. Only one of my series suffered with pulmonary tuberculosis and this one in mild form.

Method of Administration.—There are three plans of administration, namely: subcutaneous, intermuscular and intravenous. I have had no experience with the subcutaneous method and but little with the intermuscular, having given five doses in this way, but from my limited experience I am of the opinion that the intravenous method is far the superior one. The claim for the intermuscular method is that the drug is eliminated much slower, and in this way the action of the drug upon the spirochaetes prolonged. If prolonged, the immediate action on the organism must be less de-

structive, since it is the chemical action of the drug upon the parasite that destroys it, and the greater the strength of the chemical in the circulation, the more destructive its action upon the parasite. In fact, it is claimed that the drug acts in a two fold manner, that is to say, direct/chemically and indirect by the destructive action of the anti-body liberated by the isintergration of the germ following the administration of the drug. We are now taking advantage of this knowledge and giving a second dose from ten to twelve days, in order to destroy any spirochaetes that may have escaped the action of the drug or anti-body in the first administration. Their vitality may have been weakened and yet not destroyed. Local ulceration should always be treated with mercury dressings as the spirochaetes in the local sore may escape the influence of the drug through the circulation.

In our series of cases it has been impossible, though they were private cases, to follow its administration with the Wassermann reaction closely, but of those that were made 85 per cent. became negative in from thirty to sixty days. Two of the cases that have not changed from positive to negative were of the first five and to which it was given intermuscular. The reaction following its administration in this way was very marked, both local and general. The temperature rising in each of these cases, and no one of them it reached 104. The reaction following the intravenous method has not been marked in any case. The temperature rising in no case above 101 and in only four cases did it go this high. The records show that the reaction following its use in this way took place in from two to four hours and lasted only two to four. Along with this some gastrointestinal disturbance occurred in about 10 per cent. of the cases. Aside from the wonderful results on the local manifestations its effect was tonic in character. The complexion improved and a decided gain in weight was the rule. It seems to act equally wonderful in all stages of the disease. In our series, 12 per cent. were chancres, diagnosis having been made by the dark field illuminator. Fifty-five per cent. were suffering with secondaries, early and late; thirty-three per cent. were tertiary. Most of the latter had been treated for a long time with mercury and some of them grew worse regardless of its use. In none of these did we fail to get almost unbelievable results.

Of course sufficient time has not elapsed since its discovery to know if the seeming cures are permanent. The Wassermann reaction and time alone will settle this question. Clinically I have never witnessed

such results from the use of any drug in any disease and shall not hesitate to give and repeat the dose so long as the blood remains positive.

be precipitated in any considerable quantity by its use.—*Revue de Therapeutique Medico-Chirurgicale.*

Tincture of Iodine in the Treatment of Erysipelas.

The author reports a series of about 40 cases treated locally with iodine tincture. He considers it superior to other agents, but specifies certain points in the technique which are essential to success. The zone of sound skin surrounding the involved area is first painted with a wad of sterile cotton dipped in the tincture; next the diseased area is painted, using a fresh wad; finally, the area is covered over with cotton, to prevent spreading of the infection through the intermediary of the patient's fingers. The author found it best to apply the iodine lightly five or six times a day rather than more freely morning and evening. In this way induration of the superficial skin layers, which would interfere with the action of the iodine, is avoided.

The tincture used should be of 10 to 12 per cent. strength, and freshly prepared.

Twenty-one cases of facial erysipelas were thus treated with uniform success, 1 recovering after the first application, 16 in three days, 3 in four days, and 1 in five days. Of 6 cases of erysipelas of the neck, 2 were relieved in four days and 4 in six days. Eleven cases of erysipelas complicating accidental wounds yielded in less than five days. The wounds were left unsutured and treated likewise with iodine, with good results.—Ferrari, in *The Gazzetta degli Ospedali e delle Cliniche.*

Citrate of Soda in the Vomiting of Infants.

Variot advocates the use of the citrate of soda, not only for modifying milk so as to render it more digestible, but also for preventing vomiting in all sorts of infantile troubles. It has the effect of quieting the muscular peristalsis of the stomach. It makes no difference whether the child vomits from too much or too little milk, or because the milk does not appear to agree with him. The drug has an almost immediate effect for good, which is astonishing to the mother. It prevents infantile scurvy also. The author gives these statements as a result of personal observations made by him in his hospital service. He uses a solution containing in one tablespoonful 25 centigrams of the drug. It has been found to be perfectly harmless even when given for a considerable period and in large doses. One need not fear that the salts of lime will

Advantages and Inconveniences of Antidiphtheritic Serotherapy.

Pechere, after a careful discussion of the value and disadvantages of antidiphtheritic serum, gives us his conclusions. The neutralizing influence of antidiphtheritic serum against the poison of diphtheria has been shown in therapeutics; the favorable results of the serum when freshly prepared has proven of great value to the human race. Serotherapy has lessened the mortality from 50 per cent. to 12 per cent. The action of the serum is quicker the earlier in the disease it is injected. It has a specific action only against the Klebs-Loeffler bacillus, and not against the complicating bacteria, such as streptococcus, staphylococcus, and pneumococcus. The injection of serum causes at times pathological phenomena, but these are of a benign nature; they are urticarial eruptions, increase in temperature, presence of albumin in the urine, and arthropathies. Their gravity and number are not sufficient to be dangerous to the patient; we should consider antidiphtheritic serum the best treatment for diphtheria, although we should make use of local treatment for the throat at the same time.—*Bulletin de la Societe Royale des Sciences Medicales et Naturelles de Bruxelles.*

Convulsions After Orthopedic Operations.

About a year ago Dr. Schanz drew attention to the fact that convulsive fits are liable to follow orthopedic operations, especially in young children, which may prove fatal. The hypothesis offered to explain these convulsions was that they were due to fatty emboli caused by the liberation of fat from the bone marrow into the general circulation. On this hypothesis Dr. Schanz proposed to treat the condition by intravenous and subcutaneous injections of saline solution. In a recent communication to the *Deutsche Medizinische Wochenschrift*, Dr. Codivilla puts forward a different explanation of the phenomenon. He has observed nine cases of the condition, and he attributes the convulsions to the excessive tension to which the soft parts of the extremities, including the nerve trunks, are subjected in consequence of the traction often necessary to correct the deformity. Reflexly, this tension of the nerve trunk sets up a condition of excitation in the central nervous system which finds expression in the convulsions. This hypothesis receives confirmation from the experimental research

of Dr. Neri. He has been able to produce sudden attacks of convulsions in animals by exercising strong traction on the soft parts of one or both of the lower extremities. In cases in which traction is applied to both limbs the convulsive phenomena are much more frequent and more severe. According to Dr. Codivilla these convulsions are more likely to occur in patients with some neurotic taint, or predisposed to epileptic attacks. From a therapeutic point of view Dr. Schanz's method of treatment with saline injections would appear irrational according to this latest causal theory, although Dr. Codivilla suggests that an increase in the volume of blood might assist the nerve centres by increasing the nutrition and organic changes of the tissues, but he thinks the most important principle of treatment consists in relieving at once the tension and traction on the tissues. He suggests further that in cases in which there is some neurotic taint or liability to epilepsy, any manipulation should be preceded by a course of bromide, and that any extension or traction of the soft parts that may be necessary should be carried out gradually.—The Hospital, London.

Treatment of Obesity.—Robin (La Clinique) makes two propositions, first, that in the obese the albumen destroying ferments retain their normal activity; and, secondly, that the faculty of oxidization is increased. Dr. Robin concludes that they require a normal amount of albuminous material, but a less quantity of oxidizable material. The accumulated fat in the tissues must be set in motion, and this can be done only by movement; the treatment must be adapted to the life of the patient, and should not deprive him too rigidly of either food or drink. The patient should not spend more than seven or eight hours in bed each night, he should not read in bed at night, and should get up when he wakes in the morning. At 7:30 a. m. he may drink weak, freshly made tea (almost hot water), and should learn to drink it without sugar. At this meal a little cold meat, ham, or chicken is allowed, and some bread-crumbs, as this contains less nourishment than crust, about 1 oz. of bread is advised. After this meal the patient should walk on the flat for an hour if he can, or for a gradually increasing time if half an hour is too long at first. At 10:30 a. m. he will take two boiled eggs, a little bread, and a large cup of very weak tea very hot. The next meal—at midday—the patient will not have much appetite; he will have meat, ham, chicken or fish, a little bread, and a large plateful of salad with lemon juice. He will have green vegetables cooked in water, and as much fruit of all

sorts as he will take; as a drink, hot water or tea, and then half an hour's walking exercise. At 5 p. m. he has a cup of tea and a very little crumb of bread, followed by another walk. At 7:30 the midday meal is repeated, but if hot meat is partaken of, another walk should be insisted upon. Thus a person with a good appetite will assimilate daily 18 oz. of meat, three eggs, 3 to 4 oz. of bread, 2-3 oz. butter, and 9 to 10 oz. of vegetables, which represents 1,300 calories. Now, an obese person utilizes 2,525 to 1,925 calories daily, according to his weight. And the difference between the amount required and the amount supplied—1,300 is made up by utilizing the fat accumulated in his own tissues. Many of these patients are also arthritic or gouty. The question of when to stop the treatment arises. The best guide is the quantity of urine passed daily. When the cure is efficacious the amount rises and all is going well; if the amount does not increase or decreases the treatment should be stopped. This latter eventually occurs in about 6 per cent. of the cases treated. The treatment also ceases when the patient reaches the desired weight, it is unwise to attempt to reduce to the original weight; an addition of two per cent. should be always allowed for. It is necessary to analyze the urine often, and to stop the treatment when the amount of azote eliminated exceeds the amount ingested. The author has found this treatment very efficacious.

Diatribes Fallen Flat.

The literature on American antipyretics, analgesics and anodynes is voluminous, and clinical reports from prominent medical men in all parts of this country, with society proceedings and editorial references, attest their value in actual practice in an endless variety of diseases and symptomatic affections, such as the neuralgias, rheumatism, typhoid and other fevers, headaches, influenza and particularly in the pains due to irregularities of menstruation. Antikamnia has received more favorable criticism because of its success than any other remedy known. Some critics have seemed personally aggrieved because of its American source, and that it did not emanate from the usual "color works," but their diatribes have fallen flat as do most persecutions and unreasonable and petty prejudices. The fact stands incontrovertible that antikamnia has proven an excellent and reliable remedy, and when a physician is satisfied with the effects achieved with a remedy he usually holds fast to it. That is the secret of the antikamnia success. The dose is from one to two five-grain tablets. Antikamnia Tablets are today in greater use than any other remedy of their kind.

Charlotte Medical Journal

Published Monthly.

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CHARLOTTE, N. C.

CHEMICAL EXAMINATION OF CEREBRO-SPINAL FLUID.

The chemical examination of the cerebrospinal fluid gives certain valuable findings. The tests are easily performed and the reactions readily recognized.

At the time of puncture, an estimate as to pressure existing within the canal can be deduced from the rate of flow. Fluid coming drop by drop through a patent needle indicates a pressure within normal limits. A stream would indicate an increased pressure. Certain observers have studied the significance of pressure, and special apparatus to estimate this have been used, although many opportunities for error accompanied its estimation and considerable doubt exists as to the conclusions which can be drawn from slight variation. An article in the "Alienist and Neurologist," Vol. XXXII, No. 1, by Rowbinovitch and Paillard, gives an exhaustive resume of pressure estimation and its value. A contribution by M. A. Cassidy and C. M. Page in the "Proceedings of the Royal Society of Medicine," January, 1911, clinical section, page 56, entitled "A Method for Determining the Absolute Pressure of the Cerebrospinal Fluid," is likewise authoritative. Recently Crohn described an apparatus for the same purpose in the "Journal of the American Medical Association," 1911, No. 13, page 962.

When sufficient fluid has been collected, physical characteristics are to be noted. A normal fluid is colorless and clear as crystal. Blood stained fluids may result from puncture of some small blood vessel during the passage of the needle. When the blood is from this source, the first few drops may be heavily blood stained while the succeeding drops will clear and unless the hemorrhage is unusual the fluid will finally appear perfectly clear. It is with this possibility in mind that the operator should have at hand several test tubes in order to allow an early blood stained fluid to remain unmixed with a subsequent clear fluid. When the blood tinged fluid persists and it has the appearance of laked blood, in all probability the cerebrospinal fluid is blood tinged from hemorrhage somewhere within the central nervous system. The fluid may be opaque, cloudy or definitely purulent.

The chemical test of most value is the

detection of globulin. This is easily performed, and the test by choice is that of Noguchi's. This is performed in the following manner: To 0.2 c.c. of cerebrospinal fluid is added 0.5 c.c. of a ten per cent. butyric acid solution. This mixture is heated and while hot 0.2 c.c. of a four per cent. solution of sodium hydrate is added. A positive reaction may occur immediately or should the characteristic appearance result within twenty minutes, the finding is denoted as positive. A positive reaction means a definitely though very fine follicular appearance. These fine whitish strands may become large and heavy and finally settle to the bottom of the test tube. A slight haziness should not be looked upon as a positive reaction.

Of the recent literature upon the value of this Noguchi butyric acid test, probably the article by Strouse in the "Journal of the American Medical Association," Vol. 61, No. 16, Page 1171, is as conclusive as any, also that of Oliver P. Biglow, "Journal of Nervous and Mental Diseases," Vol. LXVII, No. 4; Bybee and Lorenz, "Archives of Internal Medicine," January, 1911, Vol. 7, Pp. 38-51, and Noguchi and Moore, "Journal of Experimental Medicine," 1909, Vol. XI, page 604.

Another test which depends upon the same increase of the globulin constituent is the so-called Nonne-Apelt test. This has been divided into Phase 1 and Phase 2. Phase 1 results from the mixture in equal parts of cerebrospinal fluid and saturated ammonium sulphate—the cloudiness resulting is designated as positive and depending upon the degree of cloudiness, the reaction is described as faint, moderate, heavy, etc.

The second phase consists in the filtration of the previously mentioned mixture of cerebrospinal fluid and saturated ammonium sulphate and the filtrate treated by heat and a few drops of diluted acetic acid. The test is performed similarly to the familiar heat and acid test employed for the detection of albumin in the urine. When a haziness is obtained, the reaction is termed positive and again depending upon the degree of cloudiness, suitable descriptive terms are employed.

Bisgaard in the "Monatsschrift für Psychiatrie und Neurologie," Vol. 28, No. 2, August, 1910, describes a technique somewhat more elaborate for the 1st. Phase and probably finer in its results.

Quantitative estimation of the protein constituents of the fluid has been practiced but thus far the results have not been conclusive.

A reducing body is normally present in cerebrospinal fluid and is detected by simply adding fluid drop by drop to a heated

Fehling's solution. It has been said that this reducing body is not present in the fluid obtained from general paretics. This conclusion has not been generally sustained. Many fluids from apparently normal people have shown an absence of this reducing substance while on the other hand an equally large number of paretic fluids have been shown to contain this property. The test is therefore of no clinical value.

MEDICAL INSPECTION OF SCHOOLS.

Along the line of Preventative Medicine nothing is more important than the Medical Inspection of Schools. Only two States, New Jersey and Pennsylvania, have a State law calling for careful physical examination of school children during each school year. In all of our schools there are pupils classed as backward and feeble minded, due either to neurotic taint or bodily disease. If such inspection simply called attention to these cases it would more than pay the cost to the taxpayers of employing school physicians. There are many children of the neurotic and anemic type who later on will develop a psychosis if allowed to grow up without having any attention paid to their proper physical development. Much objection has been made to Medical Inspection of Schools because some of the medical men employed as inspectors might use the office for private gain. This would be impossible for the most part, as the board of education in every city are in a position to discharge any doctor guilty of unprofessional conduct or conducting work for private gain. A large proportion of our boys and girls suffer from disease or habits which can be easily eradicated previous to the age of puberty if attention is called to the necessity of medical treatment by the family physician, in fact, the ideal procedure would be to have boys and girls brought up under the advice of skilled medical men, not waiting for pernicious habits and disease to develop but carefully watching the child from time to time to see that the best use was being made of the physical and mental talents.

Physicians as a body should instruct their patients and the public to the necessity of having proper inspection made of all school children at least once during the year. This could easily be accomplished by a few lectures by medical men in the different grammar schools of our cities. Notice of such lectures could easily be sent and the parents invited to attend them. Much good could be accomplished in this manner and the cause of Medical Inspection advanced. It is surprising to note the arguments against this work brought about by ignorance and superstition. All this could be changed if

the public as a whole were taken into our confidence and shown that the sins of the fathers are not of necessity visited on the children.

THE DOCTOR IN POLITICS.

More of our medicos should engage in the, to them, all engrossing pastime of politics. Some have said they did not care to stain their hands in politics. But if the political situation in your community is like that, please try your hand at purifying it. Don't degenerate into a chronic knocker. Try to create rather than criticize. There is at least some good in all things. "There is so much bad in the best of us. So much good in the worst of us, etc." Make your own modest contribution to the good of the municipality. Try to help your local officials do their duty.

If your fellow citizens think so well of you as to propose your name for some public service do not scorn the proffered honor or say that you are too busy to accept, but try; it may be your own small way to emulate the spirit that stirred General Leonard Wood, or Colonel Gorgas. Did not the former make Cuba blossom like a rose? Was not the freeing of the stricken island from the blight of fever like unto the cleansing of an ertwhile beautiful garden of some pestilential weed that threatened to sap, over-run and destroy all that fell beneath its sway?

Has not Colonel Gorgas made it possible for us to undertake a world work at Panama and accomplish it peacefully and easily in a land where the French miserably failed and where the unhappy workmen covered the ground with their bones?

In all Europe, and notably so in France, the physicians have won recognition in the lawmaking bodies. Medical men at the heads of departments have achieved for themselves credit, and for the public, good. It is only by the interest and activity of the physicians that we may have a national department of health. What is more important than the health of a nation? Have not more men died in our wars from disease than from wounds?

The expatriated Irish poet-patriot, John Roylec O'Rielly, in speaking of the real good, said, "Kindness is the world." If you want to be kind to your fellow creatures of the world, help them to help themselves. In other words, help them to restrain and govern themselves. Government is reached through the science of politics and for the good of the community, the individual must labor.

In the halls of our State legislatures the physician, if present, can do much to promote measures for public sanitation. If he

is at home he can do much by working for the man rather than the demagogue, by the securing of the right sort of pre-election promises from the right sort of man.

THE HOUSE-FLY IN ITS RELATION TO THE TRANSMISSION OF DISEASE.

We have recently had the pleasure of re-reading the Medico military notes on the Russian Campaign in Manchuria by Col. John Van Rensselaer Hoff, Assistant to the Surgeon General of the United States Army. Col. Hoff was a special attache of the Russian Army, and was sent by the War Department of this country for the purpose of studying Russian methods. In view of the fact that at the time of the treaty of peace at Portsmouth, the Russians had one and one-quarter million men in the field he had abundant opportunities for observations on a large scale. Although, as Col. Hoff stated, it was the healthiest army the world has ever known. As we read we were more and more impressed with the fact that the one weak point in the Russian camp sanitation was the unrestrained freedom of the flies.

The men were encouraged to drink weak tea, all articles of food except bread had to be boiled. Thus being not only sterilized, but put in the most assimilable form. In the venerable wards of the hospitals, each man had his own individual bread supply, which was kept in a closely tied bag and hung at the head of his bed. The springs and wells were placed under guard, and the men were not allowed to drink the unboiled water, unless it had been passed on by the laboratory division of the medical department.

On the other hand, however, the camp kitchens were unscreened, and the patines were wide open to the flies. The weather in Manchuria being much of the time quite warm, there were swarms of flies: as a direct result of these flies, since the food habits of the soldiers chiefly preclude other sources of infection, there were a good many cases of dysentery and typhoid fever. Nothing like the brilliant results achieved by our soldier boys during the Spanish-American war, but nevertheless these two diseases made up a considerable sick list in what otherwise was a remarkably healthy army. There were in all about ten thousand cases of typhoid fever, and five thousand cases of dysentery.

The two or three flies sometimes seen in an otherwise immaculate operating room, who insist on alighting on dressings and instruments, often cause wound infection. In fact, the fly nuisance in private houses is usually so serious that I decline to operate in a private house, unless doors and

windows are thoroughly screened, and the flies have been poisoned or driven out.

The old story of the fly and the tubercular patient expectorating on the floor is too familiar for more than passing mention.

A chronic typhoid carrier may enter the water closet of a swiftly moving passenger train, his infected feces are scattered along the right of way. The flies partake and make their way to the nearest farmhouse, a new focus of infection is started, the farmer later infects the milk which he supplies to a few families in the village near by.

The list of insect born diseases is constantly being added to malaria, yellow fever, sleeping sickness, and lately we are told that the *Simalium* fly must be the bearer of pellagra.

For the baby who subsists on food other than a healthy mother's milk, the house fly is a death dealer who shows no mercy. Let us all join in an unrelenting war on this universal contaminator who this morning crawls in sewers, for at noon he will alight on your dinner plate.

PHYSICIANS AND MALPRACTICE SUITS.

The public has been pretty well educated up to the damage suit idea. Let a man in the employ of a corporation sustain the slightest injury, the first thing he thinks of is a damage suit. Let a passenger on a train discover some remote reason why he thinks the company should make him a donation and he at once seeks the solace of the courts. This spirit at first showing its activity against the supposedly soulless corporations has turned its attention to the medical profession in many instances with prompt persistence. Time was when the doctor was held in such high esteem as the representation of an applied altruism, he was not supposed to send a bill, neither was he expected to be too particular about paying what he owed. If his horse needed pasture he might turn him into his neighbor's field, if he needed vegetables he would call at the garden of one of his patients and get them. But as time went on the world became more business like. Trades Unions arose, the doctor like any other man had his organization, his scale of fees, and expected his recompense. His practice had gotten to be a matter of business.

About this time the parasite known as the jackleg lawyer was born. Owing to the multiplicity of lawyers we must have all sorts, but it is gratifying to know that the percentage of gentlemen among them is large. When Peter the Great, on one of his visits to London, was astounded at the large number of barristers, he said, "Why, I have only half a dozen lawyers in my

empire and I mean to have one of them hanged on my return." These before mentioned jacklegs usually make it their business to pursue all individuals who might be induced to institute a suit. They take these cases on a profit sharing basis. Since the claimant has nothing whatever to lose and possibly something to gain, he will, if at all unscrupulous, go into court for the redress of fancied wrongs without hesitation. If the lawyer wins the case he gets the bulk of the damages awarded, and if he loses he gets nothing whatever. An exciting gamble for him. However, most of this dirty work is done by a low grade of legal talent.

The X-Ray has by calling attention to formerly unnoticed bad fracture results been responsible for some of these suits. On the other hand it is a great protection to the surgeon, and as a matter of record we ought to get and keep skiagraphs of every fracture made both before and after treatment. Aside from their value from the point of diagnosis, they serve to check up your work, and in event the case should ever come to court they may be invaluable records.

There are three important causes for damage suits, in all of which the physician is at fault. First, incompetence on the part of the physician, as in case of the tyro without surgical training who undertakes major surgery. Clearly a case of a bull in a china shop. The ignorant and unsuspecting patient ought to be protected from this sort by law.

Second, the wilful neglect of cases. We see cases of fracture in which the splints have not been adjusted properly. Bones once reduced have not been maintained in proper position. We recall a patient who with retention of urine had not been catheterized for forty-eight hours. Another who had gone thirty-six hours. Both died. Another man had a cut of the wrist, a tourniquet was tightly applied above the elbow and allowed to remain for eighteen hours. All of these patients were ignorant laborers, being looked after by contract doctors.

We have in mind another case, a man who had been shot at short range, bleeding from a large vein. The cot on which he lay was saturated with blood. A doctor had been called, but because of some altercation about what hospital the patient should go to, the man was left wounded and fainting without first aid.

An occasional cause of a damage suit is the j guarantee of a physician to cure the patient, as in case of the doctor who gives a single injection of 606, charges \$100 and insures a cure. Sponges, surgical instruments and other foreign bodies left inside the abdomen by surgeons are causes, pro-

vided the patient falls into the hands of doctor number two, who is an enemy of doctor number one. This accident of leaving an instrument inside is due to a gross carelessness which should not remain in the profession. For the avoidance of this accident, surgeons should use only large tape sheets in the abdominal cavity, and always have a heavy forceps attached to the tape. For abdominal work the operator should use, whenever practicable, large heavy instruments with long handles. These ballast the hand properly and are easily kept in sight. It is of course an excellent plan to have the operating nurse make a count before and after the operation, but the responsibility should remain where it belongs, on the surgeon.

Most malpractice suits will come from surgical cases because in them the evidence is made more objective. Many of these suits are brought with the view of extorting money. To compromise with them is fatal.

Burns from hot water bottles are among the most prolific causes of real damage suits. Of course these are usually brought against hospitals, but we know of an instance in which a physician attempting to operate on a woman for appendicitis became so excited when she momentarily stopped breathing that he placed a very hot water bottle over her heart. This caused a wound that was months in healing.

During the vogue of X-Ray exposures for skin lesions there were many bad burns and a corresponding number of damage suits.

THE PHYSICIAN AND THE CHARITIES.

"Charity Suffereth long and Vaunteth not Itself."

"Kind Hearts are more than Coronets and Simple

Faith

Than Normal Blood."

Physicians as a class do more for charity than any other business or profession. Not because it is of their seeking but because it is thrust on them and because there is in all truth the selfseeking motive as well. Again with the right sort of brains, they give reputation and experience. Behind it means skill and judgment. Few surgeons have won fame or success except indirectly by the aid of their charity cases.

Once in a while we see a struggling young physician so short-sighted in regard to his own advancement as to refuse to answer charity calls; immediately in our mental note-book we have prophesied for him small success. Such a man is lacking both in foresight and in the finer qualities of humanity.

The proportion of charity work done by many members of our profession is so im-

measurably large, however, as to outweigh all selfish consideration, and when called on to contribute from his often lean purse, who is more free and ready with what he has than the physician?

If we had the sum total of medical services rendered without charge in one year, the sum would loom large against millionaire university endowments, hookworm investigation funds, etc.

Most of us are only too glad to give our aid to the suffering children of poverty, but when we do this service we want to know that it is charity, and deserving charity. Few patients are more unwelcome than the man who squanders his money in riotous living and then tries to beat his physician out of a hard earned venereal disease fee.

We are more and more convinced that we should have more charities. Our hospitals are inadequately endowed to handle these cases. The medical profession is even now not doing enough for humanity. How many of our almshouses are filled with rotting material, which if rightly used could in many instances be converted into self-respecting, self supporting citizens? How many slum sick children are being brought up criminally, weak and vicious? The mind as well as the body needs treatment. How much can be done by proper supervision and surroundings for many of these? We should carry our paternal and fraternal interest even farther, we should see to it that such laws be enacted that would prohibit the marriage of the tubercular, the syphilitic, and the epileptic. It is here that much of the true charity for the race lies.

However generous we may be, when the proper time arises, we must demand that which is our own when it is due us. We must not put so low a value on our services as to take bread from our fellow physician's table by under bidding and under-charging.

Finally, the true physician must be a dispenser of charity among his people, by teaching them by precept and example, by helping to uplift the fallen, by helping the weary and the innocent to avoid the pitfalls of the race.

TETANUS.

One of the most unaccountable things in medicine is that after all these centuries of medicating, so few doctors have learned the primary rules of dosage. One of these is that enough of the remedy should be given to induce the desired effect. Surely that is elementary enough—but how many know it and apply it? The medical student learns the dose, and recites—"Dose of opium, one grain." Beginning practice, he gives his man a grain of opium and it does not re-

lieve, so he is bewildered and sends for counsel, or 'tries' something else.

There's a man in Philadelphia who has learned the meaning of the term 'dosage to effect.' This is Dr. Henry Beates, Jr., President of the State Board of Medical Examiners. In the June number of the *Monthly Cyclopedia* he tells of a case of tetanus. It was a boy aged 14, who was vaccinated on the leg and went on working in a stable, with horses. Consequence, infection of the open sore with tetanus germs. Four days after the attack commenced, when it was fully developed, he came under treatment with an acute, severe attack.

The ulcer was cauterized with phenol, and to obtain deeper penetration, with iodine. He was given intraspinal injections of magnesium sulphate, 25% solution, 5 cc. at a time; also dram doses of chloretone, in the rectum. Hypodermically, anti-tetanus serum was given, at first in doses of 3000 units, and as this did not avail the dosage was raised until in one week he received 213,740 units. The largest single dose was 35,400 units, the largest in any one 24 hours, 97,940 units. The patient recovered, because the right remedy having been selected, it was pushed until the desired effect was attained. The treatment is thus summarized:

1. Removal by curettage, cauterization, excision, amputation and application of iodine, of the bacilli elaborating tetanus toxins.

2. Neutralization of free toxins in the blood by anti-tetanic serum intravenously, intraspinally, intraneurally and subcutaneously.

3. Control of spasm by magnesium sulphate intraspinally, chloretone by rectum, or both.

4. Elimination of tetanotoxin by free catharsis and normal salt solution.

5. Cardiac, pulmonary and renal stimulants to meet conditions presenting.

I call that fine!

Dr. Beates did not simply shovel in his remedies rashly, he gave, and increased his giving, as the resistance of the disease developed.

Why don't doctors follow this simple rule, and learn the true powers of drugs in the control of the bodily functions and the manifestations of disease? The fact that a remedy was used and the patient got well means just nothing at all in the vast majority of instances. When the remedy is chosen to do a certain thing, and pushed till it does it, that is another matter.

This case is notable as a cure of a malady for which cures are rare. Beates estimates the mortality of tetanus as 80%, and Stant found it 98%. Many remedies have been

reported as successful in solitary cases, but failed on extended trial—probably because they were not pushed as boldly as in this case. One can imagine that were opium given for cholelithiasis only in one-grain doses it would lose its repute as an analgesant very quickly. The discovery that pilocarpine powerfully stimulates leucocytosis may lead to new and bolder trials of this alkaloid in tetanus; especially since the sweat it expels contains five times more toxic matter than ordinary perspiration.

As the use of the pure alkaloids become familiar to the mass of physicians, we may expect to hear of a bolder application of this principle. It is a century since Trousseau pushed his dosage of strychnine up to a grain daily in epilepsy. The same potent agent was pushed to full toleration in treating snake bites, in Australia. But these examples of bold, effective and safe therapeutics are far more rare than the rash and ignorant 'big-doser', who is about as much at home in a sick-room as the proverbial 'bull in a china shop'.

MILK SUGAR AND SUMMER COMPLAINT.

Helmholz, who writes from the Medical Research Laboratory of Rush, tells of the danger of sugar to the infant. There is more to be considered in milk than bacteria. There is neither scientific nor clinical proof of the universally-assumed indigestibility of the casein.

Czerny and Finkelstein have shifted our conception of the etiology of the gastroenteric maladies of infants from bacteria to the nutritional range of their food; from the minimum necessary to growth to the maximum taken without harm. The greatest tolerance is for the mother's milk; it is hard to make the child sick by giving too much. The tolerance is lowered by overfeeding, bacterial contamination, parenteral infection, and external heat. The toxic symptoms depend on the character of the food.

Too much sugar causes dyspepsia, wasting diarrhea, and slight fever. Gross increase of sugar or rapid loss of tolerance induces cholera infantum—coma, rapid wasting, serous stools, fever, slow toxemic breathing, leucocytosis; with albumin, casts and sugar in the urine. Finkelstein found he could develop such attacks by increasing the sugar given and abort them by cutting it out of the diet. When there was increased peristalsis, wasting and fever only, a prompt cure followed withdrawal of sugar. Meyer and others proved that salt solutions and sugar, given to dyspeptic children, could produce fever up to 104° F., and polymorpholeukocytosis up to 30,000.

The occurrence of lactosuria may be the first signal of coming toxemia. The nor-

mal infant can dispose of two to three grams of lactose per kilogram of the child's weight daily. Exceed three grams and lactosuria commences. When tolerance is reduced, even 5 Cc. of mother's milk may induce the reaction of milk sugar in the urine, showing the tolerance reduced to about 1/100 of the normal. This is because the damaged mucosa permits the sugar to transude unsplit.

From this discovery came Finkelstein and Meyer's diet in which the sugar is excluded, the casein and fat remaining.

Pups fed on an excess of milk sugar in sterilized milk fattened rapidly, then diarrhea set in, and later a sudden change occurred, the diarrhea increased, the flesh seemed to melt away, and they died in three days, very emaciated. This brings to mind the history of infants fed on the condensed milk that was heavily loaded with sugar. Similar experiments on an herbivorous animal, the rabbit, induced similar symptoms but with acidosis, to which the dog is not so susceptible.

Leopold and Reuss concluded that when lactose was injected daily its excretion by the kidney gradually lessened, showing establishment of toleration. Helmholz and Woodyatt repeated these tests with a more accurate method, and found that lactosuria did not cease, but that the sugar was also excreted by the bile and intestinal mucosa.

The conclusion is that the food which normally nourishes the child, under some conditions becomes a poison as fatal as bacterial toxins. Purity of milk is not the only important factor. How many American mothers, or doctors, appreciate the danger lying in milk sugar? Weaning is advised heedlessly, the advice on feeding depending largely on "Who sent the last sample of proprietary food."

The importance of Dr. Helmholz' work can scarcely be overestimated. Put to practice it means:

Feed the infant on its mother's milk.

If the weather becomes hot, or signs of digestive trouble appears, cut down the supply of milk sugar.

How?

Finkelstein coagulates the milk with rennet, strains off the whey which retains the lactose in solution, rubs the casein through a sieve and mixes it with buttermilk. Griffith tried this in bad cases with no benefit. It seems better to dispense with milk entirely for a time, and employ other foods, such as egg-white, clear soups and carbohydrates. The coagulum from rennet might be mixed with barley water and prove more palatable than buttermilk. Much depends on the child's taste, which usually indicates digestive capacity.

SPINAL MENINGITIS.

Dr. Peterson, in the April number of the *Western Medical Review*, contributes an interesting paper upon the use of apocynum in spinal meningitis. The distinctive symptoms to which he directs attention are, prostration, toxemia, and those attributable to the pressure of the effused liquid in the spinal canal. These he found to be decidedly relieved by the administration of apocynum, to which ergot here proved synergistic.

The value of apocynum depends upon the presence of a glucoside, apocynin. The fact that Dr. Peterson mentions four preparations of the drug but confines himself to one is significant. By the employment of the pure glucoside all this uncertainty is avoided, and one can avail himself of this powerful agent and apply it with precision.

Apocynin ranks next to digitoxin in its power of contracting the arteries, but the effect is developed more speedily than digitoxin, which according to Fraenkel requires sixty hours before its action can be recognized. The grip of apocynin on the arteries is strong, but not so unrelenting as that of digitoxin, which in repeated doses may cause complete suppression of urine by closing the outlets of the renal arteries.

The chief application of apocynin is in anasarca, where this drug restores normal tone to the vessels, if given in exactly the right dose, relieving the heart of the burden of forcing open the flabby vessel walls. Apocynin may be given to an adult in doses of 1-12 grain every four hours, increased to four times this dose, or until irritation of the stomach is threatened. By this time the pulse has been restored to normal tension, the kidneys are acting freely, and some effect on the bowels is manifest, secretion and peristalsis both being stimulated. It is a powerful, useful and safe remedy.

Ergot has been especially urged by Dr. A. L. Livingstone, of Jamestown, N. Y., who finds it of wide applicability. He claims that ergot regulates vascular pressure, raising tension when too low, moderating it when excessive. This apparently impossible observation may be explained: Whenever by reason of spasm in any circulatory area part of the blood is forced out, it goes somewhere else; ergo, some other part of the vascular tract received too much blood, its vessels being distended. Upon this section of the vascular system ergot acts, restoring normal contractility and forcing the extra blood back into its normal place. It is easy to account for the restoration of normal vascular tension by ergot, when it is too low; the relaxed vessels are energized and normal tension is restored.

Dr. Livingstone goes so far as to claim

that in conditions of general vascular hypertension, as in arteriosclerosis, ergot acts as a general relaxant and allays tension. This would be inexplicable were it not for another observation of this accomplished clinician—that these effects are not obtained from ergotoxine, but from ergot as represented by its best preparation, ergotin, the water extract. This points to the existence in ergot of an as yet undiscovered active principle, which exercises a relaxant influence over the contractile elements of the vessel walls.

To those who have not given special attention to drug action and the reaction of the body structures thereto, this may seem a self-destructive argument, since the presence of two antagonistic principles in the plant would render it powerless, the two neutralizing each other. Looking at matters from a chemic basis this would seem true, but we are dealing with vital phenomena. It is probable that no two drugs act on precisely the same part of the economy, and that all are in a sense stimulant. One may act on the nerve centers, another on the nerve cords, or the peripheral ends; while others may affect the muscular tissues, the gland cells, etc. Hence the difficulty in finding exact physiologic antidotes, as with morphine and atropine, which oppose each other in part of their field and synergize in another part.

But I believe the true explanation lies in the selective power of the individual cells, by which the paretic cell takes up from the blood the pressor principle it required to restore normal balance, while the spastic cell takes up what it needs of the relaxant principles. Lest readers may conclude this is a fanciful theorem I am advancing, let me add that Virchow declared his conviction that the individual cell was endowed with consciousness and volition; and Virchow had studied the cell as no one else before or since has done.

Dr. Peterson's observation is one of the strongest supports of Livingstone's claims for ergot that has yet appeared. The extent to which the principle of vascular contraction can be carried in acute febrile infections is yet to be ascertained; and forms an exceedingly attractive field for observation.

THE OPEN AIR IN FEVERS.

Away back in the middle of the last century, an emigrant vessel came to the New York quarantine with a shipload of typhus and typhoid. Four of the ship's officers were among the patients and they were accommodated in a house. The rest had no quarters available. A shed was hastily knocked together, three sides and roof of

timber or canvass, the fourth side open. So insecure was the structure that the night after some hundred and sixty fever-stricken emigrants were placed there, all were drenched by a rain storm. Under this barbarous treatment they all recovered. Two of the four officers died.

The lesson has been learned and forgotten many times before and since. One of the latest rediscoveries is announced by misnamed Boobyer in Public Health, quoted by The Military Surgeon for July.

Acute infections with cough, discharges from mouth, nose, ears, etc., specific rashes with exfoliating epithelium and cutaneous suppurations, continually discharge infectious matters into the air. Such cases confined in a room continually reinfect the patient. Since 1895 Dr. Boobyer has treated severe cases of scarlet fever and of smallpox in the open air with success. No harm resulted even when such cases were treated during winter in tents or covered porches. Smallpox, scarlet fever, measles, whooping cough, pneumonia, erysipelas, and typhoid fever had all been nursed in the open air, without a single untoward result in any case. Neither pneumonia, bronchitis or nephritis developed. No cross-infection occurred. In the coldest winter weather the only precaution used was protection by canvass tents, and plenty of covers to prevent chilling.

The results were encouraging. In scarlet fever the mortality fell from 3.37% to 1.94%.

A tent may be very uncomfortable, but it can not be made to exclude ventilation entirely. The protected porch is better in many ways. It protects from rain and wind, is not liable to be blown down and flooded, may be completely fly-screened, and if provided with adjustable venetian blinds may exclude rain from every quarter. A porch open on three sides is nearly ideal. In this swings, like a hammock, a woven wire frame over which a couple of blankets are laid, and we have the coolest, most comfortable and sanitary bed ever devised for sick or well. That hot abomination, the mattress, should have no place in the sick-room. Wooden beds become verminous, mattresses infected. A metallic frame may be fumigated, or the hose turned on it and the porch, the blankets aired, and there need be no accumulation of infectious material to be dreaded.

There is a tendency now to construct dwellings with sleeping porches, and this should be encouraged. Many a delicate child predisposed to tuberculosis, or pestered with constant colds, would outgrow the pulmonary weakness if put to sleep in such a porch.

MICROSCOPICAL EXAMINATION OF CEREBRO-SPINAL FLUID.

The procedure selected for the microscopic examination depends upon the end in view. As an invaluable aid in diagnosis of general paralysis, the number of nucleated elements present in a given amount of fluid is the fact to be ascertained. For this purpose two methods are at present in general use. The first, commonly known as the French or Widal method, depends upon the use of the centrifuge. The second, which has decided advantages over the first, is known as the cell chamber method and necessitates the use of a red cell mixing pipette and counting chamber of the Thoma-Zeiss blood counting apparatus. A third method, which, owing to the painstaking laboratory technique required, cannot be employed as a routine measure, although without doubt it offers the best opportunities for the examination of the cellular elements present in the fluid. This last mentioned method is known as the Alzheiner. It entails the precipitation by means of a centrifuge of the contents of a given amount of fluid; hardening of the lowermost portion of the fluid and the handling of this as a block of tissue. As previously mentioned, this technique is too cumbersome for routine employment and satisfactory evidence of a pleocytosis can be obtained by either of the two methods previously mentioned.

The French method is performed in the following manner: Four or five c.c. of cerebro spinal fluid is permitted to flow directly from the puncturing needle into a centrifuge tube, this tube having been previously sterilized. To this specimen is added three or four drops of formalin and is swung in a centrifuge at a high rate of speed, from twelve hundred to fifteen hundred revolutions per minute for one-half hour. At the expiration of this time, the supernatant fluid is poured off and the tube inverted and permitted to stand for several minutes. A freshly drawn pipette is now introduced to the tip of the centrifuge tube and by capillary attraction a small amount of fluid, which will always be found present, is drawn into the pipette. It is good practice to rub the point of the pipette upon the bottom and sides of the centrifuge tube at its tip. The contents of the pipette is blown out upon a clean cover-slip or slide; two or more small droplets are thus obtained. These are permitted to dry in the air. The droplet thus delivered and dried is fixed in absolute methyl alcohol, washed in distilled water. Of the various stains employed, the hematoxylin and eosin have been found most satisfactory. A weak solution of Delafield's hematoxylin is used for teu

minutes. The specimen is then washed in distilled water and permitted to remain in tap water for a few minutes. The excess of stain is removed by immersing for a few seconds in acid alcohol. Again thoroughly washing in distilled water, the film is placed in a weak aqueous eosin solution for five minutes. It is then washed in distilled water, dried between blotting papers and mounted in cedar oil. This specimen can now be examined under a 1-12 oil immersion objective and a search made for nucleated elements. It has been found that normally there may exist from none to five cells per field, consequently if a count of fifty or more adjacent fields exceeds five cells per field, the result is designated as a lymphocytosis. As a rule, the count ranges from ten to fifty per field. It will be observed that in this method a field of a 1-12th oil immersion objective is taken as a unit. With the method next to be described a cubic millimeter of fluid is used as a unit.

The cell chamber method has many decided advantages from the method just described. It is essentially a clinical procedure and requires only a blood counting apparatus and microscope and does not depend upon the precipitation by a centrifuge nor the collection of this precipitate by a pipette. It has been shown that frequently the centrifuge will not entirely precipitate the cellular contents of a given amount of fluid and that the collection by means of a pipette is inaccurate and uncertain. Some authors have paralleled the two methods and remarked upon their equal accuracy. Upon the other hand reports have been made showing discrepancies when the two methods were used simultaneously, and without doubt the cell chamber method appears to be more suitable when the purpose of the examination is to ascertain the number of cells that are present in a given amount of fluid.

The technique of the cell chamber method is as follows: A red cell pipette is prepared previous to the puncture by drawing a stain to the point 0.7. The tube is then cleaned and while the pipette is held in a vertical position, the stain is drawn into the mixing chamber, thus the walls and the little glass bead are coated with a thin film of stain.

The stain used is known as the Fuchs-Rosenthal stain and is a 4% glacial acetic acid mixture in sterile water to which has been added 0.1% methyl violet.

The fluid obtained from the puncture is collected in a small sterile test tube and from this the previously prepared pipette is filled. In one-half hour the specimen is ready to be counted. For this purpose the counting chamber with the Turk rulings is preferred to the ordinary chamber owing

to the fact that nine tenths of a cubic millimeter are thus counted at one filling. The entire procedure is similar to that used for blood count. When the chamber is properly filled, it is examined under a one fifth power objective and a lymphocytosis can be readily recognized. The entire number within the ruled space is counted. This number is multiplied by ten and divided by nine, giving the number present in one cubic millimeter of fluid.

As a result of this examination it has been noted that nucleated cells are normally present in the fluid. Five cells per cubic millimeter has been given as the upper limit to be found normally. Very frequently one or no cells are found. When the count exceeds five, the condition is pathological and known as a lymphocytosis. A count of six to ten per cubic millimeter is decidedly suspicious and any count over ten is considered a well marked lymphocytosis.

Among the advantages mentioned favoring this method, the most decided, without doubt, is that a relatively small amount of fluid will suffice for an examination. One or at the most two c.c. is all that is necessary and consequently it will be found that disagreeable after-effects from puncture in the nature of headaches and vomiting practically never occur. If by chance a case in which a puncture is contra-indicated is tapped, this small amount of fluid is not as likely to result in harm as when seven to ten c.c. are taken. Upon the other hand, the French method affords an opportunity to study the morphological characteristics of the cells present. Although much of this work has been done, the differential counts made have been of no clinical value excepting that a leucocytosis can be differentiated from a lymphocytosis and with this exception, differential counts are at present a waste of time.

Bacteriological and serological examination of the fluid should be made whenever the laboratory facilities are at hand, especially in all forms of meningitis, as thus the type of inflammation can be recognized. The fluid can be drawn directly into culture media and subsequently the isolation and recognition of the bacteria can be made. In the case of tubercular meningitis, it has been found that the fluid on standing will form a film upon its surface, which can be removed to a slide and stained for tubercle bacilli.

EDITORIAL NEWS ITEMS.

Laurens County Hospital.

The Laurens County Hospital, at Laurens, S. C., has been formally opened for the reception of patients. The institution is in

charge of two very competent trained nurses, Miss Julia Irby and Miss Jeanette Macfarland.

This is the first institution of this kind ever established in Laurens. This hospital should unquestionably be very successful.

The Gaffney City Hospital.

The new City Hospital at Gaffney, S. C., has recently been opened for the reception of patients.

The building has been in the course of construction for about a year, and now that it is completed, it is an institution that the Gaffney people should feel proud of. It is a thoroughly up-to-date building, with all the modern conveniences that should be connected with an institution of its kind.

There are five prominent physicians, and a corps of well trained nurses in charge of this hospital, and we have every reason to believe that the institution will be a great success.

Union Hospital.

Within the next thirty days, work will be begun on the Union Hospital, at Union, S. C. The building will contain nine private rooms, and two wards, and will be neat and attractive in every apartment.

Prizes of the American Medical Association.

The following awards were made by the committee in the scientific exhibit of the American Medical Association at the Los Angeles meeting:

(A) For the best research exhibit: (1) Gold medal awarded to the exhibit of the United States Public Health and Marine-Hospital Service for its exhibit of preparations and material concerned with research in plague and leprosy. (2) Certificate of Honor for research exhibit on investigation of pernicious malarial infection with reference to malarial hemolysins, awarded to Dr. Walter V. Brem, Colon Hospital, Cristobal, Canal Zone. (3) Certificate of Honor for research exhibit on nephritis, awarded to Drs. William Ophuls and Ernest C. Dickson, Cooper Medical College, Leland Stanford University. (4) Certificate of Honor for research exhibit on classification and identification of the parasites of the order of Trematoda, awarded to Drs. Henry B. Ward and E. F. Hirsch, Zoological Department, University of Illinois.

(B) For the best general exhibit: (1) Gold medal awarded to Pathological Exhibit of Hendryx Laboratory of the Los Angeles Medical Department, University of California. (2) Certificate of Honor awarded to Cooper Medical College, Leland

Stanford University.

Dr. Brem was formerly of Charlotte, N. C. As a boy and student he always exhibited fine ability and this very great honor that has come to him is no surprise to us.

American Medical Association.

At the recent meeting at Los Angeles the following officers were elected for the ensuing year: President, Dr. Abraham Jacobi, of New York City; First Vice-President, Dr. W. Jarvis Barlow, of Los Angeles, Cal.; Second Vice President, Dr. Floyd W. McRae, of Atlanta, Ga.; Third Vice-President, Dr. William R. Tipton, of Las Vegas, N. M.; Fourth Vice-President, Dr. A. L. Wright, of Des Moines, Ia.; Secretary, Dr. Alexander R. Craig, of Philadelphia, Pa.; Treasurer, Dr. W. A. Pusey, of Chicago, Ill. Three Trustees elected to serve until 1914 were: Dr. Philip Marvel, of Atlantic City, N. J., to succeed Dr. Wisner R. Townsend, of New York City; Dr. Philip Mills Jones, of San Francisco, Cal.; and Dr. W. T. Sarles, of Sparta, Wis., to succeed himself; Chairman of Committee on Transportation and Place of Session to serve for three years, Dr. J. R. Pennington, of Chicago, Ill.; Member of Council on Health and Public Instruction, Dr. H. B. Favill, of Chicago; Member of Council on Medical Education, Dr. J. A. Witherspoon, of Nashville, Tenn.

Dr. A. B. Knowlton, of Columbia, S. C., will erect soon an annex to his hospital there, at a cost of between \$35,000 and \$40,000. The work will be begun in about sixty days. When completed, this will be one of the most handsome institutions of its kind in South Carolina. The annex will contain 30 rooms for patients, each fitted with private bath.

Dr. Knowlton has exceptional powers in hospital management, and has had wonderful success with this kind of work.

The Lexington County Medical Society held its first quarterly meeting for 1911 in Lexington, S. C., on April 3rd. There was a good attendance of the members, and the organization heard an interesting and instructive address on the subject of Anesthesia by Dr. Shaw, of Columbia, S. C.

The second quarterly meeting of this association was held in Lexington on July 3rd. This meeting was also well attended.

The Florence County Medical Association met in Florence, S. C., on April 4th. The principal paper for the meeting was the one read by Dr. D. H. Smith. This was one of the best attended meetings in the history of this organization.

The Journal wishes to call the attention of its readers to the changed ad. of the Telfair Sanitarium, Greensboro, N. C. The Telfair Sanitarium is conducted along strictly ethical lines, and therefore receives the endorsement of the Medical Profession.

On account of the fact that most similar institutions have been conducted by Charlatans and Quacks, a demand has arisen for a strictly ethical institution, such as the Telfair Sanitarium, Greensboro, N. C.

The State Board of Health of South Carolina is now distributing, free of charge, the typhoid vaccine among the other prophylactic measures which have comprised so far, the immunizing treatment for rabies, smallpox vaccine, and diphtheria antitoxin.

South Carolina is the second State in the Union to adopt this method of free distribution.

The typhoid serum will be made in the laboratory of the State located at Columbia, and will be sent to physicians of the State upon request.

Dr. J. W. Williams, of Richmond, Va., has limited his practice to the treatment of morphine, cocaine and alcoholic patients. He treats his patients along the lines suggested by the Opium Congress at Shanghai, China. This method of treatment has been tested at Bellevue Hospital, New York, by Dr. Lambert, of Cornell University, and found of great value.

Dr. Williams has been very successful with this treatment. His advertisement will be found in both the Medical Journals published in Richmond, Va., and also in the Charlotte Medical Journal.

The Saluda County Medical Society held its regular meeting at Ride Springs, S. C., on July 12th. The attendance was good and the addresses appropriate and profitable. The morning session was devoted to public health and sanitation. Many important papers were read and discussed on this subject.

South Carolina State Medical Examining Board.

At the recent meeting of the South Carolina State Medical Examining Board the following young gentlemen passed the examination successfully:

G. F. Clugh, T. R. Littlejohn, R. E. Broadway, C. H. Cherry, C. B. Epps, F. C. McDaniel, P. P. McCain, W. E. Lester, M. W. Webb, C. D. Smith, M. Weinburg, W. S. McMurray, W. R. Tuten, J. B. Setzler, J. B. Edwards, G. W. Johnson, R. W. Hunter, E. S. Cross, F. D. Kelly, A. G.

Fewell, L. E. McDaniel, T. M. Stucky, R. E. Summers, G. B. Haselden, A. E. Brown, W. C. Maret, B. Hayne, E. R. Donald, J. T. Howell, W. H. Burgess, A. L. Ballenger, H. H. Harris, G. M. Truluck, J. A. Ilderton, D. N. Matthews, H. S. Mustard, D. S. Porter, O. M. Chapman, N. T. Clark, T. J. Boykin, B. F. Landrum, S. G. Glover, W. H. Carrigan, Lois Boyd, W. M. O'Bryan, W. B. Furman, F. P. Salley, M. C. Palmer, J. D. Harrison, A. R. Nicholson, O. F. Eckel, J. T. Smith, W. H. Powe, H. J. Stuckey, S. B. Moore, J. C. Pearce, J. S. Beaty, Anna C. Shipley, N. B. Heyward, J. J. LaRocke, A. S. Pack, F. K. Rhodes, W. A. Oxner, C. I. Goodwin, C. H. Blake, E. B. Gamble, E. O. Taylor, S. Jordan, J. E. Thomas, H. M. Ross, R. M. Newsom, J. T. Burdshaw, C. P. Coen, A. E. Pendergrass, J. H. Thomas, M. M. Edwards, C. S. Simpson, W. L. Sellers, R. R. Walker, J. Wallace, H. E. Vaughan, G. C. Franklin, O. D. Busbee, J. T. Buff, H. M. McLure, S. J. Lewis, S. R. Glover, D. S. Keisler, O. H. Purvis, E. Z. Truesdale, H. Richardson, L. H. Thomas, T. Y. Steele, A. M. Blair, W. A. Gault.

The Examining Board consists of the following physicians: Dr. J. L. Napier, Blenheim; Dr. A. Earle Boozer, Columbia; Dr. R. A. Bratton, Yorkville; Dr. P. G. Ellesor, Newberry; Dr. H. L. Shaw, Fountain Inn; Dr. Harry H. Wyman, Aiken; Dr. Joseph Maybank, Charleston, and Dr. J. J. Watson, Columbia.

Dr. E. H. Terrell, of Richmond, Va., was elected a member of the American Proctologic Society during its meeting at Los Angeles, California, on June 26th and 27th.

Marriages.

On June 28th, at 6:15 a. m., Dr. Charles Highsmith and Miss Josephine Perry were married at the bride's home at Snow Hill, N. C.

Dr. Highsmith is a popular and successful physician of Dunn, N. C. He graduated in medicine from the Baltimore Medical College in 1898, and his success has been evident since the beginning of his medical career.

Dr. C. O. Abernathy and Miss Mary Carter Ray, both of Raleigh, N. C., were married at the residence of the bride's father, Mr. John E. Ray, on August 2nd.

Dr. Abernathy is a prominent physician of Raleigh. He graduated in 1906 from the Medical Department of the University of North Carolina.

Deaths.

Dr. Crown Torrence, of Union, S. C., died suddenly on July 1st. He was about thirty-five years of age, and was a son of the late Dr. W. J. Torrence, of Gaston county, N. C.

Dr. Torrence graduated in medicine from the Medical Department of the University of Nashville, Nashville, Tenn., in 1898. He practiced medicine in Gaston county, N. C., for a few years after his graduation, later locating in Union, S. C., where he was very successful.

BOOK NOTICES.

Old Reliable. By Harris Dickson, author of "She That Hesitates;" "The Duke of Devil-May-Care," etc. With illustrations by Euden McConnell and H. T. Dunn. Indianapolis: The Bobbs-Merrill Co., Publishers.

Old Reliable is a favorite of luck and a hero by accident. A happy adventurer who profits by his own mishaps. A spinner of yarns and a keeper of legends, as romantic as he is lazy and as lazy as he is humorous. A cabin philosopher, wise and shrewd and devoted, shunning work and seeking rest in the sunshine. A black aristocrat, hating an upstart as he hates a hoe. He loves a mule, a baby and a banjo.

This is one of the most interesting of the author's novels. His style of writing is quite attractive, and he highly entertains his readers.

Handbook of Suggestive Therapeutics, Applied Hypnotism, Psychic Science; A Manual of Practical Psychotherapy, designed especially for the general practitioner of medicine and surgery. By Henry S. Munro, M. D., Omaha, Neb. Third edition, revised and enlarged. St. Louis: C. V. Mosby Company. 1911.

The fact that the third edition of this book has been called for in less than two years after its first appearance, is sufficient evidence that the efforts of the author in laying before the general practitioner an account of the principles of psychotherapy in such manner as to be of practical value as an adjunct to his therapeutic armamentarium.

The object of this book is to indicate the practical usefulness of psychotherapeutic principles in their application to the work of the general practitioner.

This book, with its substantial binding, and enamel paper, is certainly very attractive in appearance. Every phase of this work seems to be very complete, and we

are glad to recommend it to the profession.

Hygiene and Public Health. By Louis C. Parkes, M. D., D. P. H., University of London, Consulting Sanitary Adviser to H. M. Office Works; Civilian Sanitary Member of the Advisory Board for Army Medical Services; Medical Officer of Health for the Metropolitan Borough of Chelsea; Examiner in Public Health to the Royal College of Physicians and Surgeons, London; Fellow of the Royal Sanitary Institute; and Henry R. Kenwood, M. B., F. R. S., Edin., D. P. H., Lond.; Chadwick Professor of Hygiene in the University of London; Medical Officer of Health and Public Analyst of the Metropolitan Borough of Stoke Newington; Examiner in Public Health to the Royal College of Physicians and Surgeons, London; Fellow of the Royal Sanitary Institute. Fourth edition, with illustrations. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street.

This the fourth edition under the joint authorship, of a work which had previously run through three editions, has been carefully revised, and new matter has been added, where necessary, to bring the work up to date since the last edition was issued in 1907.

We are glad to have the pleasure of reviewing a book that we consider of such importance to the welfare of the entire human race. This volume is in every way up to the highest standards of health and hygiene in this country, and it is with pleasure that we recommend it to our readers.

With its neat binding and artistic illustrations, this edition will be attractive in any library.

The Practical Medicine Series, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology Chicago Post-Graduate Medical School. Charles L. Mix, A. M., M. D., Professor of Physical Diagnosis in Northwestern University Medical School. Volume four. Gynecology edited by Emilius C. Dudley, A. M., M. D., Professor of Gynecology Northwestern University Medical School; Gynecologist to St. Luke's and Everley Hospitals, Chicago; and C. von Bachelie, M. S., M. D., Assistant Professor of Obstetrics, Chicago Policlinic and College of Physicians and Surgeons; Gynecologist to the German Hospital, Chicago. Series 1911. Chicago: The Year Book. Publishers. 180 N. Dearborn Street. Price, \$1.25.

The editors have made an effort in this edition to present the year's work in gynecology and in some instances have made critical comments on this work, and the book will be of great value to gynecologists.

This volume is nicely bound, and the illustrations add much to the attractiveness and clearness of the contents.

A Handbook of Practical Treatment by many writers. Edited by John H. Musser, M. D., LL.D., Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia. Volume II. Philadelphia and London: W. B. Saunders Co., 1911.

The contents of this second volume are as follows: Diseases of the Cardiovascular System; The Surgery of The Heart; Typhoid Fever; The Surgical Complications of Typhoid Fever; Pneumonia; Diphtheria; Intubation and Tracheotomy in Diphtheria; Scarlet Fever; Measles; Tuberculosis; Toxemia; Septicemia and Pyemia; Syphilis; Gonococcal Infection; Vaccinia; Variola; Chicken-Pox; Cerebrospinal Fever; Cholera Asiatic; Plague; Yellow Fever; Dengue; Influenza; Rheumatism or Rheumatic Fever; Tetanus; Rabies; Anthrax; Glanders; Actinomycosis; Madura Foot; Foot-and-Mouth Disease; Pertussis; Mumps; Miliary Fever; Glandular Fever; Dysentery; Leprosy; Typhus Fever; Tropical Diseases; The Ocular Complications of the Infectious Diseases; The Surgical Treatment of the Joint Complications of the Infectious Diseases; Animal Parasites.

The volume is beautifully bound and the illustrations are of a high grade. Each chapter in the book has been carefully revised and many new ideas discussed.

The Care of the Baby. By J. P. Crozer Griffith, M. D., Clinical Professor of Diseases of Children in the University of Pennsylvania. Fifth revised edition. 12mo of 455 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, \$1.50 net.

The value of this volume will to some extent be appreciated by the fact that this is the fifth edition in so short a period of time. Dr. Griffith's ideas and experiences as are set forth in this book are most valuable and interesting.

This book is one that will be found of immense value in every home. It not only treats of the care of the child, but also contains discussions of many other subjects that are happening daily in the home.

The book contains many fine illustrations, is neatly bound, and the publishers have spared no pains in making it in every way very complete.

Practical Cystoscopy and the Diagnosis of Surgical Diseases of the Kidneys and Urinary Bladder. By Paul M. Pilcher, M. D., Consulting Surgeon to the Eastern Long Island Hospital. Octavo of 398 pages, with 233 illustrations, 29 in colors. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, \$5.50 net.

The indications for the use of the cystoscope are becoming more generally known, and the ease and safety with which a simple cystoscopic examination can be made have led to its early employment in appropriate cases.

In this volume the writer has stated fairly the indications for cystoscopy, and has outlined its technic in the minutest detail, describing the instruments used, and the methods of using them. Theoretical possibilities have been purposely omitted, and only the practical side of the subject has been presented.

The diagnosis of diseases of the bladder, prostate, ureters, and kidneys has been taken up in separate chapters.

It gives us a great deal of pleasure to recommend this book to physicians and surgeons. It is beautifully bound and the illustrations are very fine indeed.

Hospital Management. A Hand-book for Hospital Trustees, Superintendents, Training School Principals, Physicians, and all who are actively engaged in promoting hospital work. By Charlotte A. Aikens, author of "Hospital Training-School Methods and the Head Nurse;" "Primary Studies for Nurses;" "Clinical Studies for Nurses." 12mo of 488 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, \$3.00 net.

The purpose of this volume is to promote system, economy, and a better understanding of the principles that underlie successful, efficient hospital administration.

The discussions of the various hospital subjects are comparatively brief, yet they are clear cut and thorough. This volume makes no pretention to being a complete treatise on institutional administration. The book is thoroughly practical in every respect, and it gives us pleasure to recommend it to hospital managers and nurses.

The publishers have spared no pains in bringing this volume up to their standard so far as neatness and attractiveness are concerned.

A Text-Book of Medical Diagnosis. By James M. Anders, M.D., Professor of the Theory and Practice of Medicine and of Clinical Medicine, and L. Napoleon Boston, M. D., Adjunct Professor of Medi-

cine, Medico-Chirurgical College, Philadelphia. Octavo of 1195 pages, with 443 illustrations, 17 in colors. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, \$6.00 net; Half Morocco, \$7.50 net.

The special purposes of the authors of this volume have been primarily to furnish an improved method of determining the clinical features of disease, so that all of the more important symptomatic phenomena in a given case may be collected with ease and certainty, and to emphasize the importance of correlating symptoms with the structural changes on which they are dependent for their organismal etiology.

The author's brief pathologic definitions of special diseases will unquestionably appeal to the busy practitioner.

The methods advocated in this volume will forcibly encourage painstaking, thorough, and scientifically accurate investigation of disease, and it will more than compensate for the indifferent and embarrassing results of mere superficial observations of cases.

The publishers have spared no pains in making this book attractive both from the outside and also the inside. The text is profusely illustrated with photographs and colored plates, which facilitate the reader's grasp of the technic of the more refined methods of diagnosis.

Medico-legal Aspects of Moral Offenses.

By L. Thoinot, M. D., Professor in the Medical Faculty of Paris; Physician to Laennec Hospital; Expert to the Tribunal of the Seine; Member of the Academy of Medicine and of the Society of Legal Medicine of France. Translated from the original French and enlarged by Arthur W. Weyssse, A. M., Ph. D., (Harvard) M.D. Illustrated with seventeen engravings, including four Charts and Diagrams. (Only authorized Translation into English). Philadelphia: F. A. Davis Company, Publishers, 1911. Price, \$3.00.

The contents of this book is a course of lectures that Dr. Thoinot delivered to the students at the Medical School of Paris on the subject of Medico-legal Aspects of Moral Offenses. The author, or rather the translator, has endeavored to make this book conform as closely as possible to the form of the original French. The book contains much knowledge that will interest the medical profession of America, who are indebted to Dr. Weyssse for his earnest work in its translation.

The book is beautifully bound, and each

chapter is carefully indexed.

The Family Health. By Myer Solis-Cohen, M. D., Fellow of the College of Physicians of Philadelphia. The Penn. Publishing Company, Philadelphia. 1910.

It is now generally known that one of the greatest factors in the preservation of health and the prevention of disease is the education of the public. Personal hygiene, public health matters, and the management of the sick are subjects that the author has endeavored to present simply and clearly, at the same time stating in a manner easily understood by the lay reader the scientific reasons for each measure advised.

We are glad to have the privilege of recommending this book to our readers. It is attractive in appearance, and it is evident that the publishers have done their duty entirely.

Abstracts of the Leading articles of the month.

Intravenous Anesthesia.—Burkhardt (Munch. Med. Wochensch.) states that he has had a personal experience with intravenous narcosis in 250 cases. For this purpose he has employed, in connection with ether, a variety of hypnotics, including urethane, hedonal, chloral hydrate, isopral, chloralamid, veronal, and veronal-sodium. He has come to regard ether in combination with isopral as the most effective method of intravenous anesthesia. These agents are separately infused. At first a 1.5 per cent. solution of isopral is instilled in amounts of about 40 c.c. to the minute, the total amount introduced ranging from 100 to 200 c.c. This is followed by the injection of the ether. The advantages of the method consist in the smaller quantity introduced ranging from 100 to 200 c.c. ether narcosis, the absence of excitement, the rapid occurrence of deep uniform anesthesia, and the fact that the patients are completely awake a few minutes after the anesthetic period is over. Intravenous anesthesia is contraindicated in cases of myocardial degeneration, severe arteriosclerosis, nephritis, marked icterus, cholemia, general congestion and plethora. On the other hand, it is particularly indicated in conditions of collapse, profuse losses of blood, cachexia, debility, disturbances of the respiratory organs and peritonitis, as well as in operations on the head and neck, inclusive of the buccal and pharyngeal cavities.

The Diagnosis and Home Treatment of Scarlet Fever.—Crookshank (The Practitioner, London) says that too little attention is given to the condition of the mouth, nose and throat, in respect to diagnosis. Most text books say there are three varieties: simple, toxic and septic throats.

The characteristic appearance of the throat, whether mild or toxic, is, red, shiny, glazed and angry looking, with minute points of injection on the tonsils, uvula and palate.

There may be swollen tonsils, general edema and no exudation. With such a throat and the so-called pulse temperature ratio, we may expect a rash.

In the septic forms an exudation is present and the diagnosis lies between diphtheria and scarlet fever, and the nonscarlatinal tonsillitis.

In the severe septic forms, tonsillar swelling is great, with ulceration, discharge and perhaps otitis media.

In the mild forms of mixed infection we may have simple scarlet fever plus follicular tonsillitis.

With a definite false membrane, an appeal to the bacteriologist is imperative.

The association of diphtheria and scarlet fever causes much trouble. The author regards post scarlatinal diphtheria and post diphtherial scarlet fever as preventable, while coincident infection may be common.

Apart from membranous and ulcerative throats, other exudative conditions are to be seen, and sometimes the ordinary appearance of follicular tonsillitis.

The transient nature of the rash in scarlet fever should lead to the ability to diagnose a case without seeing the eruption. Bacteriologists may later give us a simple test, but at present we must rely on clinical observation, (a) before the appearance of the rash is likely, (b) while present, (c) and when absent and no longer expected.

The first period is brief, yet the sudden onset should put one on the alert, and the acceleration of the pulse and temperature greatly aids. The strawberry tongue is regarded as a sign of recession, if not convalescence.

The absence of sweating and high temperature may lead us to expect pneumonia, but the pulse-respiration ratio of the latter as compared with the pulse temperature ratio of scarlet fever, enable us to differentiate.

With a child ill less than 24 hours and definite red papules on the face, behind the ears, and appearing on the body, it is probably "German measles."

If there is a rash it is first seen on the second day; one seen for the first time on the third or fourth day of an uncomplicated

illness, is not scarlet fever.

The typical rash is punctuate, not papular and brick red in color, the tint varies from pink to a deep scarlet. It is seen first over the clavicles and sternum, then down over the trunk, back and limbs, the legs last, disappearing in the same order, and vanishes at the end of the first week, leaving, if severe, a greenish discoloration. The more severe the case the more intense the rash.

With a rash we have to exclude certain acute specific diseases, drug and enema rashes, septic rashes: influenza, diphtheria and food poisoning. Copiba poisoning may perfectly mimic fever, but does not accelerate the pulse above 100. Belladonna is distinguished by dilation of the pupils. Enema rashes are urticarial. With serum rashes there is intense irritation.

It is usually wisest to treat doubtful cases as scarlet fever.

Scarlet fever frequently occurs with but three of the four classical symptoms—rash, throat, tongue and pulse—and may be diagnosed with but two.

In the second week, if called to suggest, confirm or discredit a diagnosis of scarlet fever we should take a culture, especially if severe, staining marked, and desquamation present.

The characteristics of scarlet fever desquamation are: First. Fine powdering on the cheeks, first week. Second. Delicate scaling over the clavicles. Third. Pin holes or worm holes. Fourth. Large scales leaving red tender skin. Scaling is in full swing in the second week with face and neck clear.

Detection of the recognized complications, nephritis, otitis media, etc., adds force to a positive diagnosis.

In the treatment, isolation, with fresh air and the avoidance of chills. Oil rub daily, though the skin is not so infectious as the nose and throat discharge.

In septic cases sera may be of use. A number of drugs are mentioned, among which the salicylates and salol gave the best results. Care of the mouth and throat is important and here oily mixtures are good, but sprays must be carefully used. The free use of beverages and fresh air even the febrile, in good weather, is recommended.

Convalescence requires careful watching, hematemics are usually indicated.

The sterilization of all articles taken into the room must be insisted upon.

The Action of Thiosinamine. Charteris (Glasgow Medical Journal) says that thiosinamine preparations produce no definite alteration in the blood count whether ad-

ministered by the mouth or by subcutaneous injection. Even when this administration is prolonged over weeks the blood undergoes little change. There is no evidence of chemotaxis. The Dr. has found the therapeutic results of thiosinamine treatment most disappointing. He has tried thiosinamine or allied preparations in cases of keloid, rheumatoid arthritis, locomotor ataxia, chronic diffuse fibrositis, Dupuytren's contraction, &c., but with no appreciable benefit. The drug, though usually well borne, may produce poisonous symptoms. The usual course of events in such circumstances is violent vomiting and nausea, with rigors and great weakness. The pulse is rapid and fever persists for a day or two.

Basedow's Disease and Stature.—

Holmgren (Norddeutscher Medizinische Archiven) discusses the relation between exophthalmic goitre with tachycardia and height of stature. From examination of a number of cases, he concludes that a patient suffering from Basedow's disease during the period of growth is liable to attain a stature above the average. Thus, of 33 patients under 22 years of age, 28 were above the average height and 5 were under. On the other hand, of 31 patients above the age of 22, 15 were above the average and 16 below. No marked difference from the normal was found in patients suffering from goitre without tachycardia. Radioscopic examination of the hands showed that the patients affected with goitre and of a height above the normal obeyed the general law according to which ossification of the conjugal cartilage takes place earlier in tall people than in others. From Italian literature on the subject, Dr. Holmgren concludes also that exophthalmic goitre predisposes to greater height in stature, for it appears that in goitre districts the height is rather greater than in neighboring districts. The author characterizes the typical goitre patient thus: Tall and blond, menstruation early, full neck, tachycardia and slight tremors, fair hair and brilliant eyes, nervous and lively aspect, with an intelligence often above the average.

Fat and Cancer.—Beatson says that to associate the fat of the body with the causation of cancer may seem a far fetched and most unlikely connection, but it must be remembered that of late the relationship of fat to the working of the human body has been very extensively inquired into, and that it has been made evident that the fats of the body not only play no unimportant part in the phenomena of life, but they fulfil a number of functions. A perusal of the recent biochemical monograph by Leathes on Fats makes this abundantly clear. No

longer can we assign to them as their sole duty the useful part of acting in a light, compact, and portable form as a reserve fund for the growing and working cells. They serve several other uses in the organization. To these Leathes has drawn special attention and instances the following: 1. They are of a protective nature, in illustration of which may be instanced their presence in the bodies of certain bacteria; for example, the tubercle bacillus, where the presence of certain waxes increases the vitality and power of resistance of these organisms. 2. The phenomena of hæmolysis have thrown much light on the biological significance of fat. As Leathes says: "The discovery of Bang and Forssman that the antigen which starts the formation of hæmolysin is of the nature of fat, raises the fats to a level of biological significance to which heretofore only proteins have been held to attain." 3. They take a part in the formation of "antibodies." It seems that in their composition "antibodies" are made up of two substances, one specific to the particular bacterium or corpuscle, and the other the complement. Experimenting upon this particular point the work of Bordet, Baug, and Forssman points to the antibody or specific antigen being not a protein, but a fat. 4. Fats may act as specific poisons. It has been shown that the ether extract of the red blood corpuscles of one species is toxic for animals of another species, and it would appear that this specific reactive substance is of a fatty nature, retaining its properties even if, in the form of an emulsion in normal saline solution, it is heated to 100° C. (Lefmann). 5. Lastly, fats may help to build up the protein matter of the body. The work of Hans Meyer and Overton on the phenomenon of narcosis in connection with the alcohol group of narcotics has a bearing on this point. As an outcome of their investigations these experimenters found that narcosis depends on the physical changes which the narcotics induce in the relation between fats and the other constituents of the living matter. The cohesion of the protoplasm of the cells is due to the fats—viz., the lecithin and phospholipines—present, and anything that affects this cohesion, as happens under these narcotics, brings about an alteration in the physical state of the cells, with the result that their vital functions come to a standstill. In short, fats are the cement which hold together organized matter, such as protoplasm, and with the loosening of this protoplasmic cement the processes of life can no longer be carried on. Fats, then, play an important part in the organization of cells.

Arteriosclerosis.—Cowan (The London Practitioner) observes that there is no specific medicine, and the essential part of the treatment is the regulation of the life of the patient. But in arteriosclerosis, as in other chronic diseases, various symptoms may arise from time to time, and the particular measures that are required for their relief are generally indicated by the special disorder. It has been urged that an elevated blood pressure requires reduction in all cases, and a host of vasodilators have been recommended for this purpose. But in arteriosclerosis the high blood pressure is really a conservative process, an attempt to remedy the circulatory difficulties that have arisen, and any interference with it is just as likely to do harm as good. It is true that in the presence of symptoms the pressure may be temporarily high for the particular case, and with improvement often falls, but in other cases it rises, and in the absence of symptoms it is always above normal. It is not rational to conclude that because the blood pressure sometimes falls coincidentally with improvement, improvement will occur whenever and however the pressure is lowered. In many cases this can only be done by depressing the cardiac action, in short, by inducing cardiac failure. It must, however, be admitted that practical experience has shown that in certain cases vasodilator drugs may be of service. In angina pectoris, for example, the inhalation of amyl nitrite is often of great value during the paroxysm, as well as the administration of nitroglycerin in the intervals between attacks. But the action of all drugs of this kind is very fleeting, erythrol tetranitrate, which is said to have the most prolonged action, losing its effect within five or six hours after its administration, and he has so far failed to find that their continued use has had any appreciable effect upon the blood pressure curves. It is somewhat difficult to understand the high reputation of iodine and the iodides in this disease, for it seems certain that they exercise little or no influence upon the blood pressure, and their action upon fibrous tissue is only likely to be effective when it is of syphilitic origin. The general conclusion as to the good effects is, however, too strong to be lightly disregarded, and moderate doses may be given. Care should be taken, however, that iodism does not occur. Mercury is another drug which has a well established reputation in this disease, from its action in increasing renal and intestinal excretion, and in limiting bacterial processes in the intestine. Calomel and blue pill seem to be the most useful preparations. The toilet of the mouth must be carefully supervised, particularly in those cases in

which renal symptoms are prominent. In patients who are more or less convalescent, these drugs should be given intermittently rather than continuously, and their effects are probably best marked if they are given every alternate week or fortnight, with occasional longer intervals of intermission.

Treatment with Radium Emanation.—

For the last two years Strasburger (Munch. Med. Wochenschr.) has treated a number of patients at the Bonn Medical Clinique with radium emanation. He has employed this remedy by means of baths, as a beverage, and as local applications in the form of poultices according to the requirements of the patient's condition. Poultices were most frequently prescribed. Generally speaking, during the whole course of the treatment only one of these forms of applying the remedy was used, in order, as far as it was clinically possible, to obtain an opinion as to which method gave the best curative results. Inhalations were only used experimentally, but not for the purpose of treatment. In the course of the two years about 66 patients in all were treated, but only 48 of these permitted of a judgment being formed as to results. The results of treatment were as follows:—good results, 17 per cent.; medium results, 37 per cent.; negative results, 46 per cent. The cases treated included chronic arthritis, arthritis deformans, chronic muscular rheumatism, sciatica and neuritis. In another table, which covers a similar range of diseases, the percentage results were:—good, 54; medium, 23; negative, 23. He specially noted that in a number of cases of chronic rheumatism, which under other treatment had received either a negative or only a slight benefit, a favorable result was effected by radium emanation. For the further use of this method it is essential that enquiry should be made as to how the emanation is to be introduced into the body in order to obtain the most favorable results. To determine this question further clinical observations are necessary.

Chorea: Its Nature and Treatment.—

Coombs (Bristol Med.-Chir. Jour.) favors the rheumatic origin of chorea. Treatment falls under the following heads: (1) the cause must be removed; (2) the neurones must be rested and allowed to return to health; (3) their recovery will be hastened by improvement of the general health; (4) certain symptoms may call for special treatment. The child should be treated by rest in bed and given sodium salicylate. The author's experience has been that moderate doses of the salicylate—10 to 20 grains (0.6 to 1.3 gm.) four-hourly—are quite as effec-

tive as very large doses. Twenty or thirty grains of sodium bicarbonate should be given with it, and the bowels must be kept open by salines given at fixed intervals. The drug should be left off gradually when the active period of infection seems to have ceased. Rest ought to be both physical and mental. School work ought to be temporarily suspended, and games and amusements should be carefully regulated. Good hygienic surroundings assist in improving the general health, while tonics are also of value. The usual mixture of cod liver oil with malt and Parrish's food is as good as any, but its value is enhanced by the addition of two, three, or four drops of Fowler's solution to each dose. This author believes that arsenic in large doses is useless. To control excessive movements chloretone is advised. This is given in 4- or 5-grain doses thrice daily, one dose being given at bedtime. The dose may be cautiously increased to 8 grains in children over ten. Hot packs often act well where sedative drugs fail. Paresis during convalescence is frequently benefited by massage.

Small Bronchial Dilatations in Children.—Hutinel (Presse Med.) says that they are less marked, less like cavities, and less frequently infected. They are surrounded by sclerosed patches of lung. They give physical signs only when there is present a pulmonary catarrh. They have many different etiological factors; syphilis, tuberculosis, and pneumonia, especially bronchopneumonia which has lasted for a long time. Here the irritation lasts long and is more severe than in lobar pneumonia, in which the characteristic is exudation. A long suppurative process in bronchopneumonia will cause disorganization of the lung tissue, with changes in the muscular structures of the bronchi and even of the cartilages. A spasmodic cough lasting for weeks will cause much dilatation of these altered walls. Pertussis, pleurisy, and presence of foreign bodies may all be responsible for such dilatations. Dilatations in older subjects are generally tuberculous; in the child they are much less likely to occur from that cause. These dilatations occur preferably at the extremities of the bronchial tubes. The lower lobe of the lung will appear violet in color, heavy, and firm; small cavities are disseminated through sclerosed tissue, and surrounded by dilated vessels. All sorts of bacilli may be present. The symptoms are of slow development: a bronchopneumonia that is slow of cure, with protracted cough and a reappearance of bronchitis at the least exposure, slight dyspnea, and occasional rises of temperature. When more severe, the expectoration

is purulent, rarely gray and fetid; dyspnea is general and moderate, and the general condition is affected. Physical signs are moist, sub-crepitant rales, small and large, gurgles, and sonorous rales, modified vesicular breathing, and cavernous voice and cough. Young subjects may outgrow their trouble as the lungs develop, if the sclerosis is not marked. Treatment consists of application of moist compresses around the chest in acute attacks, and subsequently respiratory gymnastics with a life in the open air and proper hygiene.

Tobacco Psychosis in a Boy.—Pel (Berl. klin. Woch.) does not believe that chewing and smoking of tobacco are by any means harmless, but thinks that he can trace many troubles to the use of tobacco and its contained poisons. Nicotin is by no means the only poison found in tobacco, the others being nicotine, nicotellin, pyrrhol, pyridin bases, sulphuric acid, cyanic acid, cyanammonium, carbolic acid, formaldehyd, carbon dioxide, and ammonia. Fortunately for the smoker most of these are lost by the age and dryness of the tobacco when it is used and by the fact that many of them are burned and destroyed in the smoking process. Still nicotine is one of the most poisonous alkaloids, 50 milligrams being a fatal dose for a man. The effect of this habit on different individuals varies very much, some being much more easily poisoned than others. The diagnosis of tobacco poisoning is not easy on account of the inconsistency and variety of the symptoms caused. Each individual is a law unto himself. One person has headache; a second, anemia; a third, nervousness and sleeplessness; a fourth, heart symptoms such as palpitation, arrhythmia, tachycardia or angina; a fifth, disturbances of vision; a sixth, arterial sclerosis; a seventh, gastric symptoms; an eighth, throat and mouth symptoms. Psychoses also may develop. The author cites the case of a boy of 13 who worked in tobacco and also smoked. Previously strong and healthy, in a few weeks he had no appetite or energy and was pale, listless, inattentive, and walked with difficulty. He did not recognize his surroundings and was subject to hallucinations and hysterical attacks.

Hebosteotomy.—Haarbleicher (Journal Obst. Gyn. Brit. Emp.) presents a report of sixteen cases of hebosteotomy studied in clinics in Berlin, Munich, and Königsberg. The Dr. says that to avoid disastrous risks hebosteotomy must be performed with a very exact technic, relatively early in labor, on carefully selected cases, uncomplicated by any previous obstetrical interference,

and the benefit to be expected in a subsequent delivery is, to say the least, problematical. Even after a strikingly successful operation and uneventful immediate recovery, the condition of the patient is not always enviable, especially in the case of a working woman who is compelled to return to her duties after a short convalescence. Thrombosis, prolapse, sacral pain, drag on indefinitely although the gait is relatively seldom disturbed.

Statistics show that 80 per cent. of deliveries with contracted pelves are spontaneous, if left to nature, but if hebstectomy is not performed till the child is in danger, or till both mother and child have suffered by a protracted labor, the goal of the operation, a living child, is uncertain, and the mother incurs a grave risk. In order to ensure a living child at minimum risk to the mother, hebstectomy must be performed early in labor, and as no certain benefit can be claimed for future deliveries, it has no advantage over Cesarean section. Although the technic of the operation as now developed is brilliantly simple and exact, Cesarean section in equally skilled hands has never shown such a list of disasters. Cesarean section overcomes all mechanical difficulties, whereas in all pelvic enlargements these have still to be faced. The exact relation of the size of the head to that of the pelvis, the condition of the child, and resistance of the soft parts cannot be gauged with certainty. Injury to the bladder and soft parts, if avoided by the technic of the operation, may occur when the bones are pressed apart by the passage of the child's head and especially so if delivery has to be aided by forceps or version. To avoid these disasters the cases have to be so carefully selected that the field for hebstectomy must remain a narrow one, viz.: Multiparæ, with a conjugata of not less than 7-7.5 cm. in a flat, or 8 cm. in a generally contracted pelvis, where a segment of the head has already entered the pelvis, and it is quite clear that only a very little increase in the pelvic measurements is required for the head to slip through easily, where the child has not been endangered by previous attempts at delivery, e.g., version, forceps, or induction of premature labor, and where the mother is not infected. Even in these cases Cesarean section will be considered by many to hold the field.

is great variety in the form of this cicatrix, still there are certain uniform characteristics which may be of diagnostic service. When lying down the cicatrix is drawn downward; in standing its position indicates traction or a holding upward. The upper margin forms an arc with its curvature downward. Tumors of various kinds stretch the umbilicus in one or the other direction, and its distance from one anterior superior spine of the ilium will differ from that of the other side. From these changes the author makes certain diagnostic deductions of more or less importance. One is the place of origin of tumors. Extruterine pregnancy, annexitis when the lesion is more marked on one side, small ovarian cysts, or parovarian cysts located endoperitoneally, stretch the uraconbilical fascia and the folds surrounding it from their original position. With the woman on the back the distance from the umbilicus to the anterior superior spine on the side of the tumor is shortened. The umbilicus tends to form a lunula at the inferior margin with the concavity upward and on the side opposite to the swelling. With the woman standing the lunula is at the superior border, the concavity turned downward and to the side of the tumor, and the shortened distance from the anterior superior spine of one side remains. Ovarian or parovarian cysts that are sessile or have a short pedicle determine a like change in the umbilicus. If mobile and with a long pedicle when they extend into the abdomen they act differently, giving signs of traction from the side opposite to the tumor. The diagnosis between ovarian cysts and ascites is of more importance; also the diagnosis of intraligamentous tumors, of adhesions of tumors to the abdominal walls, and of displacement of the urinary bladder. In ascites the umbilicus is pushed out, with cysts it is drawn in, with lunulæ on one or the other side. Fluid free in the abdomen causes protrusion of the umbilicus, and when standing, the diameters of the abdomen are increased. Intraligamentous tumors cause the formation of a lunula at the upper margin with concavity below. With tumors adherent to the abdominal walls there are abnormal lunulæ and disproportion of the diameters. Such a condition will indicate operative difficulties.

Position and Form of the Umbilical Cicatrix in Gynecological Diagnosis.

Costa (Ann. di ostet. e gin.) has made a series of examinations of normal and abnormal women to ascertain whether the form and position of the umbilicus may aid in gynecological diagnosis. Normally there

Simultaneous Bilateral Tubal Pregnancies.—Launay and Seguinot (Rev. de chir.) considers the varieties of tubal pregnancy that may arise through the simultaneous ovulation of both ovaries with simultaneous impregnation producing bilateral extrauterine pregnancies. They state that this condition is not extremely rare.

The authors have collected fourteen cases described by various authors. They exclude mere recurrences of pregnancy at different periods of conception, without simultaneous impregnation. They publish a case observed by them in which there was a pregnancy in each tube, one of these a twin pregnancy, so that at operation three fetuses of the same age were found, one tube having ruptured three weeks before the other, and given rise to the diagnosis of recurrent appendicitis. It is exceptional to find a simultaneous conception in the two tubes; the conceptions may occur at different epochs, yet both fetuses be living, and this is the condition most frequently found; the pregnancy may be twin in one tube and simple in the other. Only one other doubtful case of this condition has been published. For such a condition we must have first the fecundation of two ovules; second, bilateral tubal lesions, congenital or acquired. Most of these patients are multiparæ and show lesions of the tubes; the author's case was a primipara and entirely healthy. There must be found a condition of the tubes that will permit of the attachment of an ovum, and also a bilateral cause that shall prevent the passage of the ovum along the tube on each side. The diagnosis in these cases has never been made before operation. The only possible treatment of this condition is extirpation of both tubes, and in many cases the uterus should also be removed. Histories of the fifteen cases are given.

Rare Occurrences in the Rheumatism of Childhood.—Poynton (Brit. Med. Jour.) urges the importance of accepting the view that rheumatism in childhood is an infection. Early recognition of the symptoms is the first step in successful treatment, and this is made possible only through a thorough medical inspection of school children. His observations on the rarer forms of rheumatism in childhood are based on a series of 600 cases. Rashes in rheumatism are usually urticarial and erythematous, and, in 600 cases, the author found them present at the beginning of the disease in forty cases. At times the rash simulates scarlet fever and exhibits a rapid, branny desquamation. Chorea, joint complications or endocarditis frequently follows rheumatism. He mentions the tendency to purpura in acute rheumatism, and cites a number of cases in point. Pemphigus and herpes are found in rare instances, and a combination of several of these forms has been observed. Erythema nodosum, while not proved to be an effect of rheumatism, is probably closely allied to it. Tachycardia is an occasional occurrence in rheumatism, and occasionally persists for a long time.

Prominence of tachycardia, with irregularity, is often found where the heart muscle has suffered more than the valves. He has never seen an enlargement of the thyroid gland in the rheumatism of childhood. Mastitis occurs occasionally.

Salicylates.—Wynter, in *Therapeutic Medicine* (Folia Therapeutica) says that there are many indications which show that the local application of soluble salicylate, more particularly the salicylate of methyl, may be more efficacious, especially in local rheumatic disorders, than the more usual form of administration by the mouth. He reports two cases in which pericarditis developed during convalescence from rheumatic polyarthritis although the patients were still taking salicylate of sodium, and in which the symptoms subsided in three days under the application of salicylate of methyl to the precordia. In connection with pericarditis, attention should be drawn to a very important indication, which seems to have been hitherto overlooked, as it is not mentioned in the published accounts of the disease. This is loss of abdominal respiratory movement. The association is so constant that, on the other hand, this sign should always lead to examination of the pericardium, even when there is nothing else to call attention to the morbid state of that sac, and on the other hand, when such respiratory movement is definitely present, doubtful indications of pericarditis may be disregarded. In pericarditis the plan adopted is to spread an ointment composed of two drams of oil of gaultheria in an ounce of lanolin, on lint and apply it continuously over the precordia. That the medicament is rapidly absorbed is proved by the detection of salicylates in the urine within half an hour, and no local irritation is produced. This method of course is particularly applicable to rheumatic pericarditis, and rapid subsidence of the inflammation probably exercises an important influence in diminishing adhesions and limiting the later serious consequences of the disease. When effusion occurs the fluid rapidly disappears under similar local treatment. As a sequel to ordinary rheumatic polyarthritis, it is not unusual to find pain with stiffness and even swelling persisting in some one joint after the general fever has subsided. Here the local application of salicylates often appears more efficacious than the continued administration by the mouth, without causing the nausea, prostration and deafness which are apt to attend the former when unduly prolonged. Many cases of sore throat, faucial injection and follicular or parenchymatous tonsillitis respond rapidly to a compress extending to the angle of the

jaw, composed either of the ointment of gaultheria or of a hot fomentation to which a dram of the oil has been added. This author further states that perhaps of all the disorders affected by this application none shows such marked improvement as erythema nodosum. In the ordinary way the blotches spontaneously subside in the course of two to four or six weeks, being unaffected by remedies, and prolonged by repeated outbreaks. The local application of methyl salicylate with menthol, as an ointment, relieves the discomfort at once, and induces immediate subsidence within a week, no fresh blotches appearing. The widest application, however, of this mode of treatment occurs in the various aspects of fibrositis, due to subacute rheumatism, affecting nerves, muscles, aponeuroses and bursae. Muscular rheumatism, stiff neck, pleurodynia, lumbago, and tenosynovitis, mostly in young people, disappear rapidly under the influence of rubbing with one of the liquid preparations. The stock remedy is an ointment of two drams of oil of gaultheria in an ounce of lanolin with the addition of 15 grains of menthol where an anesthetic effect is required.

Death Following Treatment by Salvarsan.

—Emilio Luque Morata (British Medical Journal) reports the following case: A bachelor, aged 21, native of Cordoba, suffered from hard chancre, adenitis, and roseola two years before, when he was advised to have mercurial inunction, but did not have treatment. He sought Morata's advice for the first time a year ago. The patient was a pale, slight man, with syphilitic plaques on the tongue, lips and pharynx, a diffused papular exanthem, and several enlarged glands. He was ordered binioidide of mercury injections, which were badly borne, and subsequently injections of 40 per cent. grey oil. He was lost sight of till the end of January last, when he again consulted Morata. During the autumn he had been under the care of a distinguished specialist at Archena, who had treated him with injections of calomel. On re-examination the glands of the neck, especially those of the posterior triangle and the jugular area, were found to be much enlarged; the plaques in the mouth quite evident. Weight 43 kilos. No albuminuria. No lesion could be detected in the heart or lungs. He begged to be given "606" and, having obtained the consent of his parents, Morata injected him at 3 p. m. on January 31st. Forty centigrams of "606" were first dissolved in serum, then neutralized with 15 per cent. caustic soda and diluted with 200 grams of normal saline solution 9, per 1,000. The equipment used consisted of a

wide-mouthed funnel, a rubber tube, and a needle, all well boiled. The needle entered the vein at the first attempt, and the drug was not introduced until it had been seen that some warm saline passed freely into the vein. This was the nineteenth case which Morata had treated with salvarsan. Three hours after injection, vomiting, diarrhea, and sweats supervened. The vomited matter was greenish and at times mingled with dark blood, the diarrhea abundant and frequent, perspiration copious, and palpitation violent. The lips were violet, the tongue chocolate and dry, the aspect very pale, temperature 36 degrees C., radial pulse almost imperceptible. The patient, who was very restless, complained of a fluttering sensation in the abdomen. Between 3 p. m., when he was injected, and 8 p. m. he passed water several times, though a specimen could not be collected, as the urine was mixed with feces. After 8 p. m. on that day (January 31st) until 6 p. m., on February 2nd, when he died, the patient did not pass a single drop of urine, and the bladder was entirely empty. The notes continue:

February 1st, a. m. General condition the same as yesterday; temperature 36 C., radial pulse imperceptible; vomiting and diarrhea ceased; thirst and restlessness increased. 3 p. m. Condition unchanged; temperature 35.8 C. 11 p. m. Very cold; thirst intense; neither vomiting nor diarrhea; urine suppressed; very restless; pulse still imperceptible; heart's action heaving.

February 2d, 8 a. m. Condition unchanged, except for increased restlessness; color of the lips from violet becomes red. 11 a. m. Began to be delirious; heart's action almost imperceptible; temperature 36 C. 3 p. m. Very cold, bowels still unmoved; raging thirst; wild delirium. 5 p. m. The death struggle began and at 6 o'clock he died in a state of coma.

From the above notes it may be concluded that anuria was the salient symptom in this case, and that this was caused by the influence of the salvarsan, which produced congestion and swelling of the renal epithelium, depriving it of its functions and causing it, in its swollen condition, to block the canalicular lumen. He adds that, notwithstanding this experience he will continue to employ salvarsan. The writer says, however, that the drug should always be given in emulsion and intramuscularly, as thus it is more slowly absorbed. Moreover, this method permits us, on the first appearance of symptoms of arsenical poisoning, to cut down over the injected area and to wash out the site of the injection, which is the only antidote we have against arsenic poisoning.

Treatment of Obesity.—Robin (La Clinique) makes two propositions, first, that in the obese the albumen-destroying ferments retain their normal activity; and, secondly, that the faculty of oxidization is increased. Dr. Robin concludes that they require a normal amount of albuminous material, but a less quantity of oxidizable material. The accumulated fat in the tissues must be set in motion, and this can be done only by movement; the treatment must be adapted to the life of the patient, and should not deprive him too rigidly of either food or drink. The patient should not spend more than seven or eight hours in bed each night, he should not read in bed at night, and should get up when he wakes in the morning. At 7:30 a. m. he may drink weak, freshly made tea (almost hot water), and should learn to drink it without sugar. At this meal a little cold meat, ham, or chicken is allowed, and some bread-crumbs, as this contains less nourishment than crust, about 1 oz. of bread is advised. After this meal the patient should walk on the flat for an hour if he can, or for a gradually increasing time if half an hour is too long at first. At 10:30 a. m. he will take two boiled eggs, a little bread, and a large cup of very weak tea very hot. The next meal—at midday—the patient will not have much appetite; he will have meat, ham, chicken or fish, a little bread, and a large plateful of salad with lemon juice. He will have green vegetables cooked in water, and as much fruit of all sorts as he will take; as a drink, hot water or tea, and then half an hour's walking exercise. At 5 p. m. he has a cup of tea and a very little crumb of bread, followed by another walk. At 7:30 the midday meal is repeated, but if hot meat is partaken of, another walk should be insisted upon. Thus a person with a good appetite will assimilate daily 18 oz. of meat, three eggs, 3 to 4 oz. of bread, 2-3 oz. butter, and 9 to 10 oz. of vegetables, which represents 1,300 calories. Now, an obese person utilizes 2,525 to 1,925 calories daily, according to his weight. And the difference between the amount required and the amount supplied—1,300 is made up by utilizing the fat accumulated in his own tissues. Many of these patients are also arthritic or gouty. The question of when to stop the treatment arises. The best guide is the quantity of urine passed daily. When the cure is efficacious the amount rises and all is going well; if the amount does not increase or decreases the treatment should be stopped. This latter eventually occurs in about 6 per cent. of the cases treated. The treatment also ceases when the patient reaches the desired weight, it is unwise to attempt to

reduce to the original weight; an addition of two per cent. should be always allowed for. It is necessary to analyze the urine often, and to stop the treatment when the amount of azote eliminated exceeds the amount ingested. The author has found this treatment very efficacious.

Serum Treatment of Urticaria.—Linser (Wien. Med. Klin.) describes several cases of urticaria successfully treated by injections of normal serum. Sometime ago Linser and Mayer treated a case of impetigo herpetiformis occurring in a pregnant woman at the Tübingen Frauenklinik by injections of serum from a normally pregnant woman and recovery followed in a short time. They then treated several cases of skin affections in pregnant women in the same way and obtained strikingly good results. One of these was a case of severe urticaria, in which two intravenous injections of 20 c. cm. of serum brought about recovery in a very short time. The author then proceeded to give injections of normal serum in cases of urticaria not connected with pregnancy. Three cases are reported. The first was that of a man, 46 years of age, who had suffered from severe urticaria for three weeks, in spite of systematic treatment. The irritation disappeared a few hours after the injection of 30 c. cm. of serum from a healthy man, and by the end of the day the urticaria had disappeared and has not since returned. An equally good result was obtained in a case of chronic urticaria of three months' duration. In the third case urticaria was possibly the result of injections of tuberculin, causing anaphylaxis, and disappeared a quarter of an hour after the injection of normal serum. Subcutaneous injections appeared to act as effectively, but not quite so rapidly as intravenous ones.

The Significance of the Rivalta Test for the Differentiation of Exudates and Transudates.

—Lehman (Praktischeschesky Wratsch) examined 52 pathologic fluids by means of this test, 19 from the pleural cavity and 33 from the abdominal cavity. According to Rivalta the test is as follows: To 200 cubic centimeters of water are added a few drops of glacial acetic acid (2 drops to each 100 cc.); in this solution is placed a drop of the fluid to be examined. If it is an exudate there appears at the point of contact of the sinking drop a distinct whitish or opalescent precipitate. Transudates do not give this reaction. According to Rivalta this method quickly and positively differentiates an hepatic cirrhosis from a tuberculous peritonitis.

Of the 19 pleural fluids, 16 were exudates and 3 were transudates resulting from con-

gestion. Of the 33 abdominal fluids 7 were exudates and 26 transudates. Pleuritic exudates gave a positive reaction with Rivalta's test, while congestive transudates gave a negative reaction. Likewise, transudates of the abdominal cavity reacted negative with the exception of one case in which, in addition to a cardiac lesion (mitral stenosis), there was a serofibrinous peritonitis, which was not determined until necropsy. Two cases of abdominal exudates also reacted positive; in five cases of neoplasm of the abdominal cavity the reaction was sometimes negative, sometimes faintly or strongly positive.

Apparently, these results are contradictory of those obtained by Rivalta, according to whom fluids accompanying neoplasms give a negative reaction. The reason for this contradiction was soon revealed, however; it was found that a positive or even strongly positive reaction is shown by those fluids which contain an abundance of blood (e.g., a case of gastric carcinoma with metastases in the greater omentum and peritoneum, and a second of tuberculous peritonitis); while clear amber colored fluids without admixture of blood always react negative. The author, therefore, concludes that the Rivalta test is a very valuable agent for the differentiation of transudates and exudates, that it excels the specific gravity and proteid estimation methods, and can very easily be applied.

Examinations on Tuberculous Infections in Childhood.—Rothé (Part 2, Publications of the Robert Koch Foundation) publishes a continuation and amplification of Gaffky's previous work. The author examined the bronchial and mesenteric nodes of 100 children under five years of age, the material being taken from successive autopsies in cases dying of various causes. Guinea-pigs were inoculated with this material, and in turn cultures of the tubercle bacilli were isolated and differentiated.

Of the 100 cases, 21% showed tuberculosis, which is about what we would expect. This is, however, in contrast to the findings of Gaffky on 300 cases under 14 years of age. In these older children only 19% of tuberculosis of these nodes was found. It is difficult to harmonize these figures and we may note that the figures of Gaffky are surprisingly low for children of this age.

All in all, in the 400 cases the mesenteric nodes were involved in 14 cases, the bronchial nodes in 22 cases, and both groups in 42 instances. The number of infections from the human type of bacillus were 75 and that from bovine infection three in number. Of these three he was unable to

isolate successfully two. The difficulty of isolation is strong evidence of the fact that he was dealing with the bovine bacillus.

He says if we exclude these two cases and consider that we have only one bovine case, the percentage of bovine tuberculosis is 1:1.3. This the author does, following the school of Koch who denied so strongly the importance of bovine tuberculosis. However, if we include these two cases the amount of bovine tuberculosis comes to 4¾% which is about what would be expected judging from previous statistics of cultures made from this material.

All in all, the work of both the author and Moeller shows us that although pulmonary tuberculosis is caused solely by the human bacilli, glandular tuberculosis is often caused by the bovine type of bacillus. —Dublin Medical Journal.

Simple Antiformin Method for Detection of Tubercle Bacilli in the Urine —

Bachrach and Necker (Wiener klinische Wochenschrift) says to obtain as much material as possible, the urine should be allowed to deposit the sediment in several conical glasses. To 20 cubic centimeters of the concentrated sediment are added an equal amount of 50 per cent. solution of Antiformin and the mixture quickly boiled. To each 20 cubic centimeters of this mixture are added 3 cubic centimeters of a mixture of 10 parts by volume of chloroform and 90 parts by volume of alcohol, then thoroughly shaken and centrifugated. The chloroform collects in the tip of the centrifuge tube, and upon it, in the form of a small stratum, rests the sediment containing the bacilli which, after pouring off the supernatant fluid, is transferred to a slide, fixed with albumin-glycerin and stained. They used Weichselbaum's method of staining, which they regard as reliable. While the authors believe with Schuster that the smegma bacillus is destroyed by from 10 to 15 per cent. Antiformin solution, they always employ for bacteriologic examination urine drawn by catheter. They examined 37 urines, obtaining positive results in 25. The remaining 12 cases subsequently were shown to be from nontuberculous subjects.

For demonstration of the pathogenicity of the bacilli obtained, 1.5 cubic centimeters of the sediment was inoculated subcutaneously in the inguinal region of guinea-pigs after the lymph glands had been crushed. After from 10 to 12 days gland and infiltrated adipose tissue were extirpated, the material comminuted with sterile scissors and placed in 20 cubic centimeters of 15 per cent. Antiformin solution which completely dissolved the organic tissue in from five to six hours (sooner in the

incubator). The suspension was then centrifuged and, after decanting the clear fluid, the sediment was spread upon one or two slides, dried in the air, fixed over a flame and then stained by Weichselbaum's method.

A New Plastic Operation for Severed Finger Tips.—Kausch (Deut. med. Wochens.) states that two procedures may be followed: Either the bone may be shortened and sufficient skin covering thus secured, or a new finger tip may be constructed. The latter method is preferred by the author, as it avoids shortening of the finger. In the case of a young girl who had lost two finger tips through a machine injury excellent results were obtained by a plastic operation. In another case, that of a young man, in whom the three middle fingers of the left hand had been severed three-quarters of an inch from the median joints, he applied a pedunculated cutaneous flap from the chest to the index finger, this being the only one which the patient permitted of being treated in this manner. The arm was bandaged to the chest and after fourteen days the pedicle of the flap was completely severed. The flap had united completely with the dorsum of the finger at the time the case was presented, and in the course of a few days the author intended to turn it back towards the palmar side and suture it there.

The Association of Aortic insufficiency with Syphilitic Aortitis.—Longcope (Bull. of the Ayer Clin. Lab.) says that during the last few years his attention has been very forcibly directed at autopsy to the frequent association of a peculiar type of arteriosclerosis—namely, *mesaortitis*—with a chronic aortic endocarditis, which gave rise to aortic insufficiency. The combination of these two lesions seemed so significant and was so striking that a systematic study of the autopsy material was undertaken to determine exactly how common the occurrence was.

He concludes that aortic insufficiency unassociated with disease of the other valves is rare after the fifth decade, and that it is seldom associated with that type of arteriosclerosis known as *endarteritis deformans*. The majority of cases of uncomplicated aortic insufficiency (81.5 per cent. in the present series) are associated with a characteristic type of sclerosis termed *mesaortitis*. The involvement of the valves takes place probably by direct extension of the process along the wall of the aorta to the aortic valves. Syphilis is certainly the commonest cause of this type of sclerosis.

Acute Circumscribed Edema of Eyelids, A Manifestation of Anaphylaxis.—

Schreiber (Brit. Med. Journal) reviews the different forms of acute circumscribed edema. (1) Arthritic edema affects arthritic subjects. It appears as a pyaceous white edema with sudden onset, chiefly affecting the face and eyelids, and may give rise to ephemeral nodules. (2) Hysterical. A sudden acute edema of the eyelids, in most cases in hysterical subjects with alimentary disturbances. (3) Quincke's disease. Habitually noticed in adults of arthritic stock between 25 and 30 years of age; often hereditary. Affects for preference the face and uncovered parts; very often associated with gastrointestinal troubles, and may lead to edema of the larynx and necessitate tracheotomy. (4) Purpuric edema. Neuro arthritic young subjects, resulting from fatigue or over-eating. White or colored edema, and associated with purpuric spots on the inferior limbs. (5) Acute cyclical. Evolution cyclical, infectious phenomena, with fever, neuralgic pains; observed only in the eyelids; deviation of the tongue, facial paresis, abolition of tendon reflexes are met with. Lymphocytosis of the cerebrospinal fluid. (6) Serum edema. Frequently seen after the use of antidiphtheritic serum, particularly on the eyelids. The author considers that all the forms of edema save the purpuric and cyclic resemble each other, and are due to a hypersensitiveness of the stomach or body generally, to certain kinds of food or drugs, or serums acting on an arthritic or nervous constitution—in other words, to anaphylaxis.

Spontaneous Fracture Due to a Bone Cyst.—H. von Haberer (Arch. f. klin. Chir.) reports the case of a woman thirty-

one years old, with a bone cyst of the arm, which was followed by spontaneous fracture, necessitating resection of most of the humerus, including the head of the bone. To replace the defect he made use of a fibula which had been taken from an amputated leg. The malleolar end served to take the place of the head of the humerus, while the lower end was pointed and wedged into what was left of the humerus. The soft parts overlying the transplanted bone were accurately sutured. Healing was uneventful. As early as the tenth day movements of the arm could be carried out, and the function improved so speedily that the patient is now able to do heavy work. A radiograph showed that a firm callus had developed about the lower pointed end of the fibula. From his experience von Haberer concludes that living bone covered with periosteum gives excellent results in trans-

plantation, although its use is not free from the risk of transmitting disease. For this reason, in the above case, before transplanting the fibula, which had been taken from a leg amputated for tubercular arthritis, he first convinced himself by x-ray examination that the bone contained no tuberculous foci.

Bacteriological Examinations of the Blood of Children Suffering from Whooping-cough by Experimentally Infected Animals.—Klimenko (Centralblatt für Bakter).

The specificity of the whooping-cough microbe discovered by Bordet and Gengou has been admitted by the majority of observers in spite of some criticism advanced by a few bacteriologists who endeavored to prove their priority in the description of organisms slightly differing from that isolated by the above Belgian scientists. A proof of the specificity of the microbe was furnished recently by the author's investigations, who succeeded in infecting experimentally young dogs with a pure culture of Bordet's microbe and thus obtained a typical clinical picture of whooping-cough. Fresh dogs when kept with infected animals were spontaneously infected, and from their throat Bordet's microbe was isolated. In the author's recent paper he endeavored to apply the method of blood culture for the diagnosis of whooping-cough, but failed to detect Bordet's microbe with patients when examined in the spasmodic period of the illness. The author succeeded only in isolating the microbe from the heart's blood, as well as from the lungs, by post-mortem examination of a fatal case; this detection, however, was not quite reliable because of a negative result obtained with blood taken from the superficial veins. The post-mortem was made twenty-six hours after death, and it is known that the presence of microbes in the heart's blood at late stages after death may be caused by bacterial growths after death, the proof of vital infection being furnished by positive results obtained from the examination of blood taken from the veins.

A number of dogs which were infected experimentally, or which contracted the disease by contact, were examined with almost similar results, post-mortem examinations of killed or deceased dogs giving only a larger number of positive results.

So far as the conclusions from this paper are concerned, the whooping-cough infection does not seem to be a bacteriemia. It represents a local infection of respiratory tract. This conclusion does not differ from the well-known clinical view or from Bordet's opinion, who was able to prove that

the whooping-cough microbe produces an endotoxine, which endotoxine is responsible for the clinical picture of the disease.

Disinfection of the Hands with Alcohol and Tannin.—Zabludowski (Deut. med. Wochensh.) states that bacteriological experiments have shown that a 5 per cent. solution of tannic acid in alcohol (95 per cent.) is sufficient to disinfect the hands after contact for two minutes, and the skin of the operative field for one minute. This procedure has the advantage over iodine or alcohol disinfection, that it permits of previous washing of the hands, although the time required for this may be greatly reduced. From December, 1909, to the end of March, 1910, the method was employed in 232 operations, including 54 herniotomies. Stitch abscess occurred in but one instance, a slight transient infiltration in another, and a small non-suppurating hematoma in two others. These results are especially noteworthy since the author's hospital is not provided with special operating rooms for septic cases and no masks or gloves are worn. The only disadvantage is that the alcohol-tannin leaves stains on the wash and sometimes on the hands, especially if the instruments have lost their plating, so that tannic acid comes in contact with the steel. Such stains, however, are readily removed with 1 per cent. oxalic acid solution.

Urine Examination in Life Insurance—

Farce.—Harrower says that examination of the urine, when careful and complete, is one of the best means of diagnosis that we possess. It is therefore easy to understand why uranalysis should be required of applicants for life insurance. The usual method pursued, however, results in farcical conclusions. Frequently the medical examiner analyses a specimen voided at the applicant's visit for physical examination. No pains are taken to obtain a sample of twenty-four hours' urine; some companies even prefer that a specimen voided in the presence of the physician be examined, so that deception may be prevented. Specific gravity is usually measured by the cheap urinometers, found in physician's offices. The urine is then boiled and occasionally Heller's test for albumin is used in addition. Fehling's or Haines test is used for sugar. Most insurance companies are satisfied with the examination such as sketched above. The specific gravity may be higher than the limits set in the instructions for medical examiners, yet it is possible that a single specimen taken in summer time may normally show a specific gravity between

1025 and 1030. Or the individual may have taken in his food little protein and much table salt, and thus raised the specific gravity of the urine. On the other hand, a low specific gravity might exist in a single specimen, depending upon the amount of water taken. As to examination for albumin, the tests used are frequently negative when no manifest disease of the kidney exists, or traces of albumin are shown in the absence of a serious disease. Could there not be an alimentary albuminuria? Could not urine contain occasionally traces of albumin, just as its content in phosphates or chlorides varies daily? Harrower has seen the appearance of albumin and casts depending upon high acidity of the urine, the correction of which resulted in the disappearance of the abdominal elements. It may therefore be concluded that the presence of albumin may be neglected unless the albuminuria is a constant phenomenon. So far as sugar is concerned, it has been shown that Fehling's reagent may be reduced by many other substances in addition to sugar. The phenylhydrazin and the fermentation tests have, therefore been proposed, but even then, when but a single specimen is examined, alimentary glycosuria is not excluded.

Harrower proposes that in cases of polycy of \$1,000 and more the urine should be examined by a specialist, who should perform chemical tests for albumin, sugar, bile pigments, blood, and indican, and, in addition, quantitative tests for urae, acidity, ammonia, and perhaps phosphates and chlorides. Then a careful microscopical examination of sediment should follow. Such a test would show whether the individual is in normal condition of metabolic equilibrium; whether or not a disturbance of the kidney or other parts of the genito-urinary apparatus exists; whether a high degree of intestinal putrefaction is present. Harrower concludes that this would allow the insurance of many who are now excluded, and would exclude others who now prove to be bad risks.—*Zeitschrift für Versicherungsmedizin*.

Rupture and Perforation of Pyosalpinx.—Lejars (*Semaine Medicale*,) reviews what Bonney and others have published on the subject, emphasizing the necessity for bearing in mind the possibility of rupture of a pyosalpinx when confronted with menacing peritonitis of unknown origin. The history of the case generally shows some acute flare-up of an infectious process just before, and a slight contusion afterward inducing the rupture or perforation. The pyosalpinx may also rupture during delivery or measures to induce abortion.

Cherassu recently reported a case of this kind: A woman introduced a long bone canula supposedly into the uterus and during the night abdominal symptoms developed with fever; pulse was weak and 130, and the abdomen was found flooded with pus traced to one tube containing several small interstitial abscesses. The tube was removed, as the condition of the patient did not permit hysterectomy. She died in less than five days. Galliard has reported a case in which a woman convalescing from typhoid suddenly developed severe colic, vomiting and severe tympanitis, high fever and pulse of 160. When the abdomen was opened no perforation could be found in the intestines but the right tube was swollen and perforated and it was excised; the patient rapidly recovered. Typhoid bacilli were cultivated from the pus in the excised tube. The author found streptococci exclusively in one case of diffuse peritonitis from rupture of a left pyosalpinx, and death speedily followed. Latzko and Cotte have each reported a case of rupture abscess in an ovary. The author has also encountered two cases in which the tube had perforated and had become gangrenous, the condition resembling exactly those in a gangrenous appendix. The peritonitis following perforation of a pus tube is, as a rule, unusually grave and rapidly progressive: the pains are localized in the pelvis, and are severe from the first; the findings with vaginal palpation may give the clue to the suppurating focus in the uterine adnexa. The condition is frequently mistaken for appendicitis or a ruptured tubal pregnancy. Differentiation is important on account of the necessity for prompt operation without temporizing. Removal of the diseased tube and possibly the uterus with the adnexa is the safest course.

Rectal Strictures.—During the past ten years 28 cases of this kind have been treated in the Polyclinic for Gastrointestinal Diseases of Professor Albu, of Berlin, as reported by Dr. P. Dorsemagen (*Mediz. Klinik*, No. 9, 1911). Of these, 26 occurred in woman and only 2 in men. In 7 the stricture was situated just above the anus, in 11 about 3 cm. above, and in the others 4 to 6 cm. above in 8 there was a history of late syphilis; in 4 of gonorrhoea, while in the others the cause could not be determined. This would show that syphilis is an important etiological factor. Although resection of the stricture would be the ideal treatment, it is attended with great difficulties owing to the general condition of weakness of the patients, the case with which the rectal wall is torn, the in-

filtration of the surrounding tissues; the presence of perirectal abscess; etc. The formation of an artificial anus has also been suggested, but the ordinary treatment consists of the prolonged use of dilatation, preferably by means of the uterine dilator of Hegar or Rosenberg's dilator. Even in the use of bougies, however, great caution should be exercised to avoid tears of the rectal wall or the occurrence of pelvic abscess or peritonitis. Specific treatment does not seem to be of much account nor the use of fibrolysin. After dilatation of the stricture the accompanying catarrhal condition should be treated by astringents, local cauterization, or irrigation.—London Medical Lancet.

Polynuritis During Pregnancy.—J o b (Annales de Gynecologie et d'Obstetrique) has compiled sixteen cases of myelitis or polynuritis occurring in the course of toxic vomiting in pregnant women. In each case in which the pulse is recorded the rate had been over 100 before the signs of paralysis developed, confirming the necessity for active measures whenever the pulse runs over 100 in the vomiting of Pregnancy. Five of the women died; six were delivered at term but most were left with severe functional disturbances. In five cases the gravity of the symptoms led to early interruption of the pregnancy and the outcome was by far the most favorable in this groupe. In a case reported in detail, abortion was not induced until nearly two months after the first symptoms and the patient did not long survive. The auto-intoxication seemed to follow a regular course in the entire sixteen cases, affecting first the vomiting center, then the cardiac center and finally, the peripheral nerves. The nervous symptoms may continue to develop after all the gastric symptoms have subsided and, once installed, they show scarcely any tendency to subside so long as the pregnancy persists. The prognosis is better with abortion or premature delivery induced in time.

The Hemolytic Streptococcus in puerperal infection. M. Metzger states that we have not as yet found a diagnostic method to distinguish between virulent and non-virulent streptococci in the vaginal secretions and blood. Hemolysis was a short time ago considered an exact differential test, but since then it has been shown that non-hemolytic streptococci are found in severe cases, and also hemolytic streptococci in harmless discharges. It has been shown by some authors that the property of hemolysis was but temporary and due to virulence of the germs, and that the

hemolytic can be transformed into non-hemolytic bacilli by passage through mice and other animals. The same results are obtained with the secretions of the vagina, uterus, and blood. The presence of streptococci in the blood is a bad prognostic factor. Hemolysis indicates that the blood is a good culture medium for the germs, and rather shows the resistance of the organism than the virulence of the microbe. Culture on blood agar is a simple prognostic method, basing one's conclusions on the rapidity of hemolysis and the number of colonies found. Normal puerperal women may be carriers of streptococci that become virulent.—La Presse Medicale.

Luetic Spinal Meningitis.—Goedhart (Hedert. Tijdschrift von Genus) reports a case of paresis due to a syphilitic lesion of the cauda equina in a man 24 years old. After a prodromal stage of a few days with vertigo, pains between the shoulders, encircling the chest, and violent headache, paralysis of the muscles of the right leg with weakening of the muscles of the thigh and abdomen. This was accompanied by incontinence of urine and lumbar pains radiating down the legs. The tendon reflexes were abolished in the right lower extremity. The cerebrospinal fluid gave a negative Wassermann reaction, but showed marked lymphocytosis. The blood gave a positive Wassermann reaction. Rapid and complete cure followed lumbar injection of corrosive sublimate solution.

Internal Derangements of the Knee Joint.—Koerber (Deut. Ztschr. f. chir) reports on twenty-six cases of injuries of the semilunar cartilages of the knee-joint, of which nineteen were treated by operation. Examination showed that the most frequent findings were tears of the cartilages. The typhoid injury is to be regarded as splitting of one of the semilunar cartilages into two parts by a longitudinal fissure, which was observed in 75 per cent. of the cases. Both segments of the cartilage were found still adherent anteriorly and posteriorly, the internal portion being separated, but the external portion adherent. The internal semilunar cartilage was chiefly involved. In a recent case the symptoms consist principally of effusion into the joint, fixation in a position of flexion, tenderness to pressure, and pain on passive adduction of the extended knee, if the internal cartilage is involved, and on passive abduction, if the external is chiefly affected. The symptoms in a chronic case are similar to those of floating cartilage, except that there is present a localized tenderness and

thickened cartilage can be felt. He recommends conservative treatment in recent cases by permanent fixation of the joint in the hope that the cartilage may again become adherent. In the chronic form, however, operative intervention is indicated consisting in partial or total extirpation of the affected cartilage. Koerber's operative results have been very good, the patients being able to resume work within a short time, while recurrence of the symptoms of displacement was not observed. No development of arthritis deformans as observed by others was noted, so that he is inclined to believe that in the rare instances in which this has occurred the disease itself was responsible for the laceration of the cartilage.

Operative Treatment of Fractures of the Leg and Forearm.—In this class of cases, in which reduction is prevented by dislocation of a fragment in the interosseous space' generally the distal fragment. Clairmont (Archiv f. Klin. Chir., Bd. 93, Hft. 3) recommends the following procedure; After attempts to secure reduction have proved unsuccessful a small incision is made down to the seat of fracture, the lower fragments grasped with a strong bone hook and drawn out of the interosseous space. This may be sufficient to permit of reduction, or, at least, may serve as a harmless measure preparatory to bone suture,—Edinburgh Medical Journal.

The Influence of Appetite Upon the Stomach Contents.—Fischer (Muench. med. Wochenschr.) says that Pawlow has shown by means of physiologic experiment that the presence or absence of appetite exerts a decisive action upon the flow of gastric juice that follows the ingestion of food. The writers' observations confirm those of other clinicians that the degree of acidity of the stomach contents varies greatly according to the palatability of the test meal. Many patients have such an aversion to the Ewald breakfast or the Riegel dinner, that the stomach contents obtained after their ingestion give an entirely erroneous picture of the true state of gastric secretion. Fischer believes that it is far better to allow the patient to choose his favorite dish as a test-meal, while he has devised a combination of foods that in his experience has proven sufficiently palatable to all patients for practical purposes. While we are not inclined to go quite as far as Fischer and those who have expressed similar views, we have found the manner in which the Ewald breakfast is served to be of considerable influence upon gastric secretion. If it suffices to hand a clinic patient a few slices of toast and a couple of

glasses of water, more delicate feeders require a neatly arranged tray, with linen, pretty china and silver.

Thickened Pleura and Persistent Pleuritic Effusions.—Dieulafoy (La Presse Medical) mentions some cases of this nature and discusses the problem of treatment. The first case was that of a young woman who in the space of two months required paracentesis thoracis 15 times, the total amount of fluid withdrawn amounting to 40 litres. The pleurisy terminated in a cure, but its nature was proved by the subsequent development of pulmonary tuberculosis. The second case was that of a man aged 35, of previous good health, who developed pleurisy with effusion. Subsequently at regular intervals over a period of years he required the withdrawal of fluid from the chest, there being no other evidence of disease. The pleura was evidently much thickened, but still there was a remarkable freedom from symptoms other than those due to the mechanical pressure of the fluid, even though at times during its later stages such fluid has been hæmorrhagic or purulent and fetid. Microscopic examination of the fluid showed the presence of granular leucocytes, endothelial cells, streptococci and pneumococci. The micro-organisms, however, on cultivation were found to be very attenuated in virulence. The third case, that of a man 59 years of age, was of a very similar nature. For 18 years thoraco-centesis was performed at intervals without incident. Then the fluid became sanguinolent with a large proportion of lymphocytes. The pleura was much thickened, but the existence of the condition seemed to have very little effect on the general health of the patient. There was no sign of pulmonary tuberculosis, and the fluid in this case was proved to be sterile: the nature of the thickening was therefore not explained. As regards treatment, Dieulafoy refers to a method of decortication of the lung practiced by M. Delorme. Before such an operation is undertaken it is, of course, necessary to endeavor to ascertain beforehand the expansibility of the lung, as well as the thickness and resistance of the enveloping pleura, by means of radioscopy and radiography. But in view of the maintenance of good general health, the complete though temporary relief obtained by withdrawal of the fluid, and the danger and risk of failure involved in such an operation, one would naturally reflect seriously before suggesting or undertaking it.

Hypophyseal and Eunuchoid Adipositas in Children.—Neurath (Wiener klin. Wochenschrift) contributes three observa-

tions on abnormally fat children. In the two first cases—a boy of ten and a girl of eleven years—there was an abundant accumulation of fat in the subcutaneous connective tissue, with a predilection for the regions designated as the typical localizations of eunuchoid fatty deposits, by Tandler and Grosz. Both cases had further in common the greater length of the lower part of the body, and the ultimate development of epileptic seizures. The third patient, a six-year old boy, presented an evident hypoplasia of the genital glands. Similar positive indications of primary genital hypoplasia were absent in the first case, but all the symptoms suggested the existence of certain dystrophic substances arising on the basis of an impaired function, or hypoplasia of the interstitial tissue of the genital glands, which regulates the development of the secondary sex characteristics and the course of normal ossification. This interstitial tissue of the genital glands must be interpreted as a parenchyma having an internal secretion of its own.

Cystoscopy of the Serous Cavities.—

Jacobæus (The Hospital, London) has conceived the idea of making a direct inspection of the peritoneal and pleural cavities by means of a cystoscope. He uses a trocar and canula, and a cystoscope of Nitze which is sufficiently small to pass within it. The Dr. first makes a small incision in the skin and passes in the trocar, empties the cavity of fluid, and insufflates air by means of a Politzer air pump. He then introduces the cystoscope, which is fitted with a valve to prevent the air escaping. The manœuvre is easier in the case of the pleura than of the peritoneum, on account of the danger of injury to the viscera, but experiments on the cadaver have shown that the introduction of the trocar does not involve the risk of injury to the intestines, even when there is no ascites. The author has been able by this means to observe the presence of hepatic cancerous nodules, of perihepatitis, peritoneal congestion, cancerous nodules of the intestine, and to study intestinal peristalsis. In the case of the pleura he has not been able to detect definite lesions, but hopes to succeed in doing so with more dexterity. He is of opinion that "laparoscopy" and "thoracoscopy" should furnish useful data, comparable in some degree with those of exploratory laparotomy. Considering, however, the somewhat complicated and difficult technic and manipulation, and the very limited range of observation obtainable even in the most favorable circumstances, it may be doubted whether the method offers any but a very limited field of usefulness.

Pruritus of the Vulva in Pregnancy.—

Rudaux (La Clinique) finds that pruritus is a common trouble among pregnant women, and that it is often so aggravated as to entail loss of rest and sleep, and to induce pronounced nervous irritability. In some cases the cause is without doubt the presence of more or less well-marked discharge, but he has found sugar in the urine of all the pregnant women who have complained of discomfort and irritation of this part. He permits no ingestion of sugar or sweets, and prescribes for them Vichy water as a drink. A local application of hot water, with 10 grams of chloral, is made four times a day, the parts being afterwards treated with an ointment of ichthyol 10 grams, and benzoin. A few days later a powder made up of zinc oxide, bismuth and talc will be found useful. If there is any leucorrhœa a morning and evening douche containing 20 grams of sodium borate is prescribed.

Electrical Treatment of Obesity.—

Laquerrière (Journal de Medicine de Paris) mentions Bergonie's electrical method of treating obesity by exercise of the various muscles, the surface of the body being covered with large electrodes, so that all the large muscular masses are affected. The operator then applies a tetanizing faradic current through the electrodes, in such a manner that there is a rhythmical action, the excitation lasting half a second and the interval of repose a half second. The current should be strong enough to cause marked muscular contractions. During this treatment the body becomes covered with sweat, but the patient feels no disagreeable sensations, only the contraction of the muscles. The heart and respiration are increased in frequency, in response to the need of increased oxygenation in the contracting muscles. There is no appreciable fatigue when the sittings are properly managed; the appetite is increased and sleep is improved; blood pressure is lowered as it is after simple exercise. One gets general active gymnastics, but involuntary ones, and without the interference of the psychic centers. It is difficult to find any other system of gymnastics that approaches this in the general action of all the muscles. This form of exercise may be used even for persons who are persuaded that exercise is bad for them. Since the movement is involuntary the nervous system does not become fatigued. In the fearful and the neuropath one may get the benefits of exercise without their having any of the inconveniences of it. Bergonie has obtained brilliant results by this method in the obese, but the method may be employed also in all

the nutritional troubles. This method is both preventive and curative, since it increases the musculature of the patient, and he will not again fall into the hygienic faults that have caused his obesity.

Sacral Anesthesia in Gynecology and Obstetrics.—Schlimwert and Schneider (Munch. med. Woch.) have made use of this method of anesthesia in 155 obstetrical and gynecological cases. As a result of their experience they recommend its use in the simpler operations of labor and gynecology. The technic is somewhat difficult in fat persons, and in these it is better not to attempt it. The use of this method has not been attended, in the experience of the authors, with any inconveniences. It is recommended in prolapsus operations, repair of the perineum, hemorrhoids, and other operations on the external genitals. In obstetrics it may be used in operations on organs supplied by the sacral plexus, such as forceps, perineum repair, etc. It is advised, combined with scopolamin-morphin sleep in sensitive patients who wish to feel no pain throughout labor. With a sitting position and the use of a 2 per cent. solution the anesthesia lasts about twenty minutes. With a 1 per cent. solution and elevated pelvis anesthesia comes on in from five to fifteen minutes and lasts about one hour; with a 2 per cent. solution its duration is two hours; anesthesia begins in the buttocks and extends forward and backward into the labia and mons veneris. With elevated pelvis it reaches to the navel. In labor the pain of the contractions is removed for about an hour and a quarter, but after that time it returns and either another injection must be given or another anesthetic employed to prevent remembrance of the pain.

Miscellaneous.

A Promising Agent in Hay Fever.

Dr. J. E. Alberts, of The Hague, Holland, undoubtedly performed an important service when he directed the attention of the medical profession to his new combination for the treatment of vasomotor rhinitis. We refer to the combination now known as Anesthone Cream, which has heretofore been briefly noticed in these pages, and which contains one part of adrenalin chloride to twenty thousand (1:20,000), and ten per cent. of para-amido-ethyl-benzoate, and is marketed in the form of an ointment.

Applied to the mucous membrane of the nares, Anesthone Cream has a persistent anesthetic effect which affords marked re-

lief in hay fever. As para-amido-ethyl-benzoate is only slightly soluble in aqueous fluids, its anesthetic action is prolonged. It does not have the poisonous effect of cocaine upon the protoplasmic element of cells, nor does it depress the heart. Furthermore, there is no tendency to "habit" acquisition.

The preparation came into considerable use during the hay-fever season of last year, the consensus of opinion being that it affords a very practical and satisfactory means of relief from symptoms due to hyperesthesia of the nasal mucous membrane, and without ill effects—an important consideration. The fact that the relief continues for several hours in some cases is worth remembering, in view of the fleeting effect of most local anesthetics.

Anesthone Cream is supplied in a collapsible tube with an elongated nozzle to facilitate its application to the nasal mucosa, a portion of the cream about the size of a pea being applied three or four times a day, as may be necessary. It is marketed by Parke, Davis & Co. Whether, as an agent in the treatment of hay fever, it will attain the vogue reached by some other preparations put out by the same company—notably Adrenalin Chloride Solution and Adrenalin Inhalant, which have been before the medical profession for a number of years and thus have the advantage which pertains to priority—remains to be seen. At any rate it is worthy of a fair chance, which, of course, in the long run it is certain to get.

Glycyl-Tryptophan Test in Cancer of Stomach.

Several years ago, Neubauer and Fisher discovered that the stomach contents of cases with cancer of the stomach contained a ferment which unlike pepsine is able to split up the peptide glycyl-tryptophan. The latter constituent can then be easily detected by adding very dilute bromine water after acidifying, when a violet color will appear. H. Pechstein has tested the reaction on a number of cases and has obtained a positive result in one benign affection of the stomach and five negative reactions out of nineteen in cases certainly carcinoma. The application of the test is further restricted by the fact that the presence of blood or of pancreatic juice in the stomach contents will interfere with the reaction. The presence of large amounts of free acid such as occur in carcinoma after ulcer, also renders the test unsuitable. It is also probable that no reaction will be obtained in the early stages of the growth, before ulceration has set in. The test is, therefore, not likely to become very popular.—Berl. klin. Woch.

Treatment of Severe Gastric Hemorrhage.—Kraft (Archiv. f. klin. Chir.) says that the chief reason for the infrequency of operative intervention in these case is that the results thus far reported have not been encouraging. In a few cases it has been possible to arrest the hemorrhage by ligation of a bleeding vessel or cauterization of an oozing ulcer, but as the ulcer is often deeply seated it may not be possible to ligate, or the bleeding vessel may not be found. Occasionally the ulcer itself escapes detection. Other operative measures, such as gastroenterostomy, do not always give immediate results. On the other hand, Rovsing's method, which the author has employed since two years, has proved very serviceable. It consists in the introduction of a diaphanoscope, an especially devised instrument, through an incision in the stomach, thus permitting of direct inspection of its walls. This method permits of the detection of very small ulcerations, no larger than a pea, while any bleeding vessel can usually be seen. The hemorrhage is arrested by applying a ligature, taking in the entire thickness of the stomach wall, and this area buried by one or two purse string sutures. After removal of the diaphanoscope the gastric wound is sutured. In four of five cases of severe hemorrhage this procedure caused arrest of the bleeding.

Arthritis Deformans Juvenilis. Perthes (Deut. Ztschr. f. Chir.) says that this condition is much more frequent than was previously thought. This is due to the fact that the symptoms frequently resemble those of coxitis. It is often confounded with this disease. The most striking symptom, the limitation of mobility, however, is not due to reflex muscular tension or to adhesions as in coxitis, but to the mechanical conditions in the joint from the change of the femoral head. Abduction seems to be chiefly impaired, while flexion may be preserved. Pain is absent or occurs only after prolonged walking, and crepitation is rarely present. The limping gait, which is another characteristic sign, is due rather to insufficiency of the abductors than to shortening. X-ray examination shows slight shortening of the femoral neck even during the early stages. Although the disease is ordinarily progressive, much can be accomplished by conservative treatment, particularly passive movements, either manual or with the aid of mechanical apparatus, the main object being to reduce the limitation of movement to the smallest degree.

The Use of Salvarsan in the Treatment of Malignant Tumors.—Czerny and Cann (Muench. Med. Wochenschr.) say that they have employed salvarsan in 12

cases of malignant disease, comprising seven of carcinoma, two of sarcoma, and three of Hodgkin's disease. The Wassermann reaction was positive in all, with the exception of one case of cancer and one of Hodgkin's disease. In the cases of cancer the stomach and intestinal tract were involved in two, the tongue in three, and the lip and floor of the mouth in one each. The neutral emulsion of salvarsan recommended by Michaelis and Wechelsmann was used, which was usually injected into the gluteal region, but sometimes into the tumor. From their experience the authors draw the following conclusions: (1) In inoperable malignant tumors with a positive Wassermann reaction, and particularly in sarcomata, a trial of salvarsan is indicated. Its use is justified in view of its favorable influence upon these tumors, as shown by their tendency to become liquefied and undergo necrosis, and also by the fact that arsenic is one of the oldest and in many ways the most efficient medicament recommended for the treatment of malignant disease. (2) Operable tumors are to be surgically removed under all circumstances, but it is questionable, particularly in sarcomata with positive Wassermann reaction, whether an attempt with salvarsan is not warranted. (3) Salvarsan treatment of malignant tumors should be resorted to only in hospital practice, owing to the occasional intense reaction. Cachectic and debilitated patients should be excluded from the treatment. (4) The customary dose of salvarsan of 0.4 to 0.6 gm. is too small for cases of malignant growths, and, depending upon their extent, several injections of such doses should be made. (5) A combination of direct injection of salvarsan into the tumor, with its administration at some other point of selection, perhaps intravenously, appears particularly effective, although the dose to be employed has not yet been definitely established.

Renal Decapsulation in Eclampsia.—

Franz (Wiener klin. Wochenschr.) says that the greatest obstacle to Edebohl's operation in eclampsia is the difficulty of determining its indications, particularly the proper time for its performance and the previously existing renal conditions. Decapsulation is contraindicated before delivery, during the course of pregnancy, since the toxemia producing the eclampsia persists until the uterus is emptied. Furthermore, it should not be resorted to too soon after delivery, in order to determine the effect of emptying the uterus. If the eclampsia, however, continues, the operation should not be too long delayed, because it is of doubtful efficacy when irreparable organic changes have taken place in the kidneys. Its main indi-

cation is in cases where, besides other toxic phenomena, the renal function is involved, as shown by oliguria, anuria, or increasing albuminuria, and where the spasms or coma persist.

Sexual Element in Neurasthenia.—

Macnaughton-Jones, in the London Practitioner, describes the 67 symptoms of neurasthenia thus: (1) Psychoses: shown in such symptoms as irritability and capriciousness; restlessness; disinclination for exertion (physical or mental) in work or amusement; loss of power of concentration; forgetfulness, sensation of unreality, feeling as if an arm or limb "were not there"; unusual apathy; moroseness; fanciful ideas of ill-health generally of some special organ—commonly the heart or stomach. Minor degrees of agoraphobia and claustrophobia; insomnia, development of erratic tendencies dyspareunia, and repulsion towards marital relations. (2) Physical symptoms, subjective: Pain—exaggerated, causeless, diversified, transitional and shifting, aroused by suggestion and often relieved by it; headache, hemicrania; pain in the left lower costal region; at the lumbosacral junction; over the ovaries, in the neck of the bladder, during or after micturition; in the anus and coccyx; in the throat, when swallowing or speaking; dental neuralgias; throbbings and noises in the head and ears; hyperæsthesia acustica; globus hystericus. (3) Physical symptoms, objective: Various pharyngeal and laryngeal neuroses in which dysphagia or troublesome attacks of spasmodic cough occur; changes in the character of the voice and possibly complete aphonia; periodical turgescence (often unilateral) of the turbinals, susceptibility to "hayasthma," various types of migraine (more commonly ocular); intolerance of light, ocular fatigue and slight amblyopia (refraction and ophthalmoscopic signs being normal); cardiac rhythmic disturbance and palpitation; rapid respiration, "catching of the breath" and proneness to syncope; epigastric pain and sickness with flatulent distension, morbid cravings and so called "stomach cough;" mammary sensitiveness and turgescence; vasomotor disturbances in the skin, especially of the face, such as flushings, morbid blushing, periodical pigmentary changes, hyperæmias and perspirations; other vasomotor disorders, as burning in the hands and feet, and icy coldness of the extremities. He is of opinion that capriciousness, irritability, selfishness, restlessness, and excitability are among the mental characteristics which stamp in the child the prototype of the neurasthenic and hysterical woman. Parentage, surroundings, and education largely influ-

ence precocity and the psychic forces that then come into action. From 19,000 records of the age at which menstruation commenced, Engelmann came to the conclusion that "the educational status" indicating "more or less luxury under the highest mental and social stimulus" is "the environment which awakens the nervous system to an early activity." Race and climate, according to him, has little influence on precocity. The Dr. approvingly refers to the custom of the American Indian who "isolates the girl on the first appearance of the flow" removing her from all arduous duties and excitement into more salubrious surroundings where she learns the importance of the change in her life. The writer is not aware of our Indian custom of isolation not only on the first appearance of the flow but every time the flow appears. Dr. Macnaughton-Jones cites cases of neurasthenia due to the derangement of sexual functions cured by operations.

Malignant Syphilis and "606."—Buschke (British Med. Jour.) says that while the term malignant syphilis is not clearly defined, he agrees with Lesser's definition of this condition, which includes those cases of syphilis in which the usual secondary period is absent or very short, and which are characterized by the early appearance of ulcerations of the skin and mucous membrane, which differ from the usual tertiary ulcerations in the circular instead of serpiginous form, and in being more widely distributed over the body. Malignant syphilis is also subject to frequent relapses, and is often accompanied by diffuse, infiltrative, gummatous or ulcerative lesions of the internal organs. The author does not consider that malignant syphilis has any connection with phagedenic chancre, and states that the chancre is usually normal in such cases. As regards the causation of malignant syphilis, the author points out that the condition often occurs in robust subjects, and is not necessarily due to predisposing causes, such as alcoholism, tuberculosis, anemia, and general bodily weakness. Neither is malignant syphilis due to the intensity of the virus, for both benign and malignant syphilis may arise from the same source of infection, and it has been shown by confrontation that the source of infection of a case of malignant syphilis need not be malignant itself. In fact, the subjects of malignant syphilis are predisposed in some way, but the nature of this predisposition is not known. The author draws attention to the similarity of malignant syphilis to the form in which syphilis appeared as an epidemic at the end of the fifteenth century, and mentions Finger's

suggestion that this severe form affects the individuals of generations who have long been free from syphilis. He distinguishes four forms of malignant syphilis: (1) Cases which hardly require specific treatment, and recover under stimulating and nourishing general treatment; (2) cases which react to mercurial and iodide treatment like ordinary syphilis; (3) cases which react to intensive mercurial and iodide treatment, especially to calomel injections; (4) cases which are resistance to mercury and iodides. In these cases he recommends mild arsenical treatment. But such cases are rare, and it is remarkable how so many observers who have reported on Ehrlich's preparation have suddenly come across so many cases which were refractory to mercury. In the very rare cases which do not react to the above treatment, the author would have recourse to "606" provided there were no contraindications. However, he points out that this preparation has a deleterious neurotic action, and mentions cases of ocular paralysis and affections of the labyrinth which have been reported by Finger, Stern, and himself. In addition to this neurotropic action, the author points out that "606" in the tissues are known to produce necrosis, and he thinks it not improbable that microscopical foci of necrosis may be produced in this way in the internal organs after injection of the drug; moreover, that such deposits may predispose to further manifestations of syphilis. In support of this view he mentions the tendency of syphilides to appear in tattoo marks in the skin. He also mentions cases of severe headache after intravenous injection of "606," which did not improve under mercury and iodides. With regard to the mode of action of "606," the author points out that spirochetes are absent in the lesions of malignant syphilis and scarce in those of tertiary syphilis. Hence he considers the action of "606" to be organotropic, like that of mercury and iodide, and not parasitotropic as Ehrlich supposed. Experimental inoculation of apes from cases of malignant syphilis also produced lesions in which no spirochetes could be found. The author mentions the interesting fact that in no case of tabes or general paralysis has he found the characteristic scars of malignant syphilis. He concludes that the nature and origin of malignant syphilis will repay further study, especially as this form resembles, perhaps, the original epidemic form of syphilis rather than the ordinary syphilis of the present day.

Neurotrophism of Salvarsan.—Gerome and Gutmann (Berliner klin. Wochenschrift) say that out of 300 cases, in which

they used salvarsan they observed affections of the cranial and peripheral nerves following the treatment in 13 cases, but emphasize that these disturbances were remote manifestations of syphilis and not manifestations of arsenol poisoning. They base their assumption upon the following observations:

1. The symptoms did not resemble the toxic symptoms of any organic or inorganic arsenic preparation.

2. The symptoms were ameliorated, not aggravated, after continued use of salvarsan.

3. Nonsyphilitics subjected to the salvarsan treatment have not developed similar signs

The facial and oculomotor nerves were paralyzed in two patients, who also gave a history of rheumatism, and the auditory nerve in four. Probably syphilitic lesions of the auditory nerve often go undiagnosed and are more frequent than generally supposed.

Regarding the pathogenesis the authors hold the view already expressed by Fisher and Kreibich, that the peripheral and cranial nerve lesions are secondary traumatic lesions in the sense that the central nervous system is weakened by the action of salvarsan. Ehrlich, on the other hand, considers them due to a renewed activity of the spirochetæ of the nervous system which have not yet been destroyed by the arsenobenzol compound.

Hemorrhage from Abnormally Situated Placenta.—Drs. DeRibes and Courelaire (*Annales de Gynecologie et d'Obstetrique*) between 1890 and 1907 analyzed sixty-eight cases. The mortality was 10.29 per cent., but two of the seven patients who died were moribund when brought in, and another was in advanced septicemia. A number of the children were prematurely born and died soon afterward, but twenty-five of the thirty-six children born alive left the maternity in good condition. In eight of the total sixty four cases delivery proceeded normally and in seven nothing was required but podalic version. In eleven cases the hemorrhage was controlled by merely rupturing the fetal membranes, six of the children being born alive. In thirty-eight cases this was supplemented by introduction of the inflatable bag, twelve of the twenty children surviving. In most of the cases the treatment instituted was rupturing the membranes, supplemented or not with the inflatable bag. In cases of neglected hemorrhage, in which the women were liable to die of septicemia if they survive the shock of their hemorrhages, the authors realize the advantage of the Porro

operation as removing at once the source of the hemorrhage and the organ which is liable to be the portal of entry for septicemia. They recently performed this operation with eminent success in thirteen minutes, with 10 gm. of chloroform, the hemorrhage being behind the placenta and very profuse.

Relation of the Thyroid to the Female Generative Organs.—Goodall and Conn (Canadian Med. Ass. Jour.) mention a case showing that pelvic disease was the cause of thyroid enlargement. Shortly after the onset of pelvic pain and discomfort, the patient noticed a gradual enlargement of her thyroid, dyspnea, tachycardia and other symptoms of thyroid disease. After a while an operation was performed and when the abdomen was opened the pelvic disease proved to be a chronic tuberculosis, involving tubes, ovaries and uterus extensively. All these organs were removed. About twelve days after the operation, the authors noticed that the thyroid was decreasing in size. This continued and six months after the operation the woman was entirely well. The thyroid had enlarged synchronously with the onset and progress of a grave disease of the generative organs and with the removal of the pelvic disease the goitre visibly diminished to dimensions below the normal. The authors believe that there can be no hesitation; then, in claiming that the pelvic disease was the cause and the thyroid enlargement the effect. This led them to investigate the subject further, clinically and experimentally, and the following conclusions represent the results of this work:

(1) The relationship between the female generative organs and the thyroid is very intimate. (2) The generative organs which stand in such close relation with the thyroid are the ovaries. (3) That the uterus is devoid of any influence on thyroid activity, except in that its function may affect the ovarian function, and through this the thyroid. (4) Thyroid activity is in a measure under the governance of ovarian activity. (5) Ovarian hyperactivity is a frequent cause of the development of exophthalmic goitre. (6) Diminished or absent ovarian activity usually coincides with myxedema. (7) Puberty, menstruation, pregnancy, lactation and the menopause exercise a profound influence on thyroid secretion. (8) Thyroid and ovarian secretion do not supplement each other; they neutralize each other. (9) The ovary has two secreting structures—the corpora lutea and the interstitial cells. (10) It is the secretions from the latter which seem to bring the ovary

and the thyroid into such close relationship.

Prevention of Post-Operative Peritonitis.—Kaczynszky (Archiv. f. klin. Chir.) recommends for this purpose intramuscular injections of quinin. These were found to effectively prevent peritoneal infection, and led to their use after appendectomies and operations for pelvic disease with suppuration. A watery solution of bisulphate of quinin, 1 to 11, was employed in amounts of 3 c.c., injected into the muscles of the thigh. The injections were made three or four times daily, sometimes being continued until the fifth day after operation.

Intraperitoneal Ruptures of the Bladder.—Galaktionow (Deutsche medizinische Wochenschrift) records fifteen cases with five recoveries. A search of the literature revealed altogether sixty-four cases of recovery. In one of the author's own cases the operation was not performed until the lapse of eighty hours, and notwithstanding this a cure was obtained. He urges that the use of the catheter for diagnostic purposes should be restricted as much as possible in view of its slight utility and the great risk of infection. Only a single catheterization immediately before operation is justified; the diagnosis should be made from the general symptom-complex present.

Thyroid Grafting and the Surgical Treatment of Exophthalmic Goitre.

Groves and Joll (British Medical Journal) say that the indications in the case of exophthalmic goitre are to lessen the thyroid secretion, to counteract the thyroid toxicity, and to add some source of normal secretion; that in cretinism and myxedema the thyroid therapy has recently been supplemented or replaced by thyroid grafting. They report a case, the features of special interest of which are as follows:

The temporary improvement following partial thyroidectomy, which lasted only as long as the wound discharged. The occurrence of tetany after subtotal thyroidectomy in which the parathyroids had apparently been preserved. The cure of this tetany by thyroid medication. The persistence of dyspnea and tachycardia in spite of subtotal thyroidectomy. The occurrence of tetany of a functional type after thyroid grafting. The cure of this form of tetany by hypnotic suggestion. The great amelioration of the symptoms by thyroid grafting. The occurrence of menstruation and coincident swelling of the grafts after thyroid transplantation.

It is obvious from a consideration of their case, together with a review of the literature of the subject, that the value of thyroid grafting is by no means settled, but

enough has been said to encourage further work in this direction. It seems fairly certain that grafting can be successfully undertaken as far as the immediate vitality of the grafts is concerned. Further, that in recent cases of thyroid inadequacy, a good functional result will accrue from this method.

A study of literature shows that heteroplastic transplantations are futile. Experimental work has established the fact that thyroid grafts in animals "take" and that they functionate. The healthy tissue of the lobe removed for cure of a localized adenoma will answer well. It has been observed that the grafts take better in thyroidectomized animals than in those not so treated.

Cristiani advises the use of thyroid tissue the size of a wheat grain, each piece being placed by separate stab wound in the subcutaneous tissue of the neck and shoulder regions. Absolute asepsis is essential. No antiseptics should touch the wound or the graft, and rapidity of execution is also of prime importance. The best results were obtained when the grafts were kept warm in a strictly isotonic solution, preferably Locke's or Ringer's; isotonic salt solution is far less satisfactory. Grafts can be kept in human blood serum for an hour. An interesting case is reported of myxedema following thyroidectomy for Graves's disease held in check by the mouth exhibition of doses of thyroid equal to $1\frac{1}{2}$ grammes. On two occasions at three months' interval 38 pieces of thoroid tissue were grafted into the subcutaneous tissue. Symptoms of thyroidism followed, but soon the dose of thyroid by mouth could very materially be diminished. This woman subsequently became pregnant, and during pregnancy there was an increase in the size of the grafts, followed by recession after delivery.

Carraro has obtained results by implanting thin disks of thyroid tissue in the subcutaneous tissue, and insists that one side of the transplanted piece must still be covered with some of the connective tissue capsule of the gland to insure its vitality.

Bircher on the basis of the clinical experience is entirely skeptical as to the beneficial effect of grafts.

Thickened Pleura and Persistent Pleuritic Effusions.—Dieulafoy (La Presse Medical) mentions some cases of this nature and discusses the problem of treatment. The first case was that of a young woman who in the space of two months required paracentesis thoracis 15 times, the total amount of fluid withdrawn amounting to 40 litres. The pleurisy terminated in a cure, but its nature was proved by the sub-

sequent development of pulmonary tuberculosis. The second case was that of a man aged 35, of previous good health, who developed pleurisy with effusion. Subsequently at regular intervals over a period of years he required the withdrawal of fluid from the chest, there being no other evidence of disease. The pleura was evidently much thickened, but still there was a remarkable freedom from symptoms other than those due to the mechanical pressure of the fluid, even though at times during its later stages such fluid has been hæmorrhagic or purulent and fœtid. Microscopic examination of the fluid showed the presence of granular leucocytes, endothelial cells, streptococci and pneumococci. The micro-organisms, however, on cultivation were found to be very attenuated in virulence. The third case, that of a man 59 years of age, was of a very similar nature. For 18 years thoraco-centesis was performed at intervals without incident. Then the fluid became sanguinolent with a large proportion of lymphocytes. The pleura was much thickened, but the existence of the condition seemed to have very little effect on the general health of the patient. There was no sign of pulmonary tuberculosis, and the fluid in this case was proved to be sterile: the nature of the thickening was therefore not explained. As regards treatment, Dieulafoy refers to a method of decortication of the lung practiced by M. Delorme. Before such an operation is undertaken it is, of course, necessary to endeavor to ascertain beforehand the expansibility of the lung, as well as the thickness and resistance of the enveloping pleura, by means of radioscopia and radiography. But in view of the maintenance of good general health, the complete though temporary relief obtained by withdrawal of the fluid, and the danger and risk of failure involved in such an operation, one would naturally reflect seriously before suggesting or undertaking it.

Conjugal and Family Tabes and General Paralysis.—Beaussart (Journal de Neurologie) writes in regard to the recorded cases of the above conditions, and adds some cases of his own. Of course there is often difficulty in determining definitely the syphilitic history. For this reason, probably, the author does not give definite figures showing the absolute number of recorded cases. He gives, however, several pages devoted to writers' names, with a few details of the cases which they have published. Looking over these pages one can say that it is practically certain that one could fairly easily collect from the literature 100 cases where the husband and wife both affected with syphilis later became either

general paralytics or tabetics. He supplies some specially interesting cases. A glass-blower, who contracted syphilis by using the mouthpiece belonging to another syphilitic blower, became a general paralytic. His wife also became paralytic. The other blower became a general paralytic, whilst his wife shows no abnormality, but her lover is affected with tabes. The next case was a general paralytic, giving a positive Wassermann reaction. His wife is a taboparetic. Her lover, contaminated by her, is also a general paralytic, and his wife shows signs of syphilitic affection of the nervous system. Another observation concerns two general paralytic brothers, syphilitized by the same mistress; another mistress of one of them died of general paralysis; and a lover of the first mistress is also a general paralytic. Another case concerns two general paralytics, one of whom is dead. His wife became the mistress of the second. A case of the author concerns a man of 46, who contracted syphilis at 27. His first wife died of general paralysis; the man is now a general paralytic and his second wife has tabes. The Doctor shows that in some cases of general paralysis where syphilis has been denied and which were ascribed to other causes such as lead poisoning, a positive Wassermann reaction has been obtained. The writer refers to the idea that there is a form of syphilis having a special virulence for the nervous system. In this connection he refers to the observation of Bezancon and Labbe that a staphylococcus obtained from an infected joint is very liable when injected into animals to cause joint trouble in them; its growth in the joint has given it a special joint virulence. He suspects the possibility that a spirochæte derived from an individual whose nervous system has been affected by it has acquired a special virulence for nervous tissues. The writer concludes that syphilis is almost exclusively the etiological factor in these cases, and recommends that in cases in which other factors and not syphilis appear to be the cause that a Wassermann test should be made.

A School of Tropical Medicine in New Orleans.

An effort is being made to raise a fund for the endowment of a chair of tropical medicine at Tulane Medical College. The need for a school of tropical medicine in New Orleans has been felt for years, though students at Tulane are pretty well grounded in tropical medicine in the regular course. The local project is under the direction of Dr. Isadore Dyer, dean of the Medical College. One contribution of \$5,000 is reported.

Full knowledge, which alone disperses the mists of ignorance, can only be obtained by travel or by a thorough acquaintance with the literature of the different countries. Personal, first-hand intercourse with men of different lands, when the mind is young and plastic, is the best vaccination against the disease.—Osler.

An Old Favorite in a New Form.

The frequency with which we have to give Iron, Quinine and Strychnine and the intense bitterness of the common liquid form of this combination makes any improvement of interest. After long experimentation, the Lilly laboratories have developed a formula, offered as Coco I. Q. & S., which is bitterless and palatable. It also contains from two to four times as much quinine as the ordinary elixir. Coco—I. Q. & S., contains one grain of quinine sulphate to each average teaspoonful, 96 minims, whereas most elixirs represent but $\frac{1}{4}$ grain of quinine to this volume. The quinine in Coco I. Q. & S., exists in the unchanged form of crystals suspended in a chocolate flavored, syrupy medium, which masks their bitterness, also that of the strychnine. In elixirs the quinine is in solution, supersaturation and consequent precipitation occurs when attempts are made to raise the quinine content. Coco I. Q. & S., is not only stronger than the elixir, but is so palatable that a child will take it as readily as an adult. Furthermore, it is not known to the laity as elixirs are, and can be prescribed without the patient recognizing the treatment which in certain cases is a decided advantage. A request addressed to Eli Lilly & Company, Indianapolis, will bring you a sample.

"Robinson's Elixir Paraldehyd." 10 per cent. Paraldehyd is hypnotic and anodyne. It calms restlessness and insomnia, and procures unbroken sleep from four to seven hours duration, and to leave behind neither languor, nausea nor digestive disorders. It also acts as a diuretic. It has been found efficient in the insomnia of various acute diseases, and also in acute Mania. It is proposed as possessing the good without the evil qualities of chloral. Nat. Dis., 3rd Edit., P., 151.) Robinson-Pettet Co., incorporated. (See page xiv this issue.)

Census Data and Their Interest for Medicine.

Krevet has analyzed a few census returns for the town of Muhlhausen, with the population of over 35,000; 950 inhabitants had reached the age of 70 or over, and of those 554 were women. Five persons over 90

years of age were all of the female sex. These data answer the general belief of the exceptional longevity among women. As a rule these aged persons belonged to the middle class of society. Many of the women had borne many children. They were mostly of medium stature, not obese, and gave a history of sound digestion through life. None ever took any gymnastic exercise, or massage; none were teetotallers or vegetarians; none spent their holidays at the seashore or in the south; none frequented sanatoria or mountain resorts. Most of them slept in ill-ventilated quarters. The great majority had labored all their lives. One woman of 94 years had been a cripple—a hunchback—since 30 years of age, yet she bore 15 children. At 80 she broke her femur, and had been an invalid since. Krevet thinks that a study of statistics and observation of aged people may throw light upon the question of longevity.—*Blatter für Vertrauensärzte der Lebensversicherung.*

Early Diagnosis of Cancer of the Uterus.

Siredey states that the symptoms generally considered diagnostic in cancer of the uterus, pain, fetid discharge, and hemorrhage, do not appear in the beginning of the disease, but only when it has advanced to the period of ulceration. The pain in the early stages is of the character that is met with in metritis, heavy, located in the lumbar region, and extending to the legs and pelvis. The lancinating neuralgic pains begin only when the tissue outside of the uterus containing the nerves become involved. The discharge is like ordinary leucorrhea, without the fetor that is expected until the late stages of necrosis of the growth. The symptom of hemorrhage varies much with the type and location of the growth. Hemorrhage that is repeated in the intermenstrual stage is of more value than an excessive flow at the menstrual period. Extreme setor is more apt to occur in senile metritis, due to the action of anaerobic bacteria. The only really accurate method of diagnosis is curettement and examination of the scrapings. The author advocates dilatation of the cervix, and such examination in every case of suspected cancer of the fundus.—*Le Bulletin Medical.*

An Assumed Pathognomonic Sign of Malarial Infection.

Mars has experimented on the presence, stated by Uroila, of a black pigment to be found in the urine of patients having malarial infection. The author tested seven cases for this pigment in various kinds of malarial infection. He finds that the malarial pigment found free in the blood, en-

closed in the phagocytes, or fixed in the tissues does not pass into the urine. Hemosiderin, a substance less complex than melanin, may pass through the renal tubes and be present in the urinary sediment. He found no melanin in the urine tested, but a brown pigment similar to hemosiderin. This may be similar to that found in the blood of anemic patients, those who have parasitic hemoglobinuria, or poisoning with pyrogallallic acid. The finding of malarial pigment in urine is not a diagnostic sign of value.—*Il Policlinico.*

A Medical Strike in Austria.

Much dissatisfaction is expressed among the profession in Austria at the new legislative proposals made by the Government with regard to "social reform." The doctors believe that if these proposals become law they will be absolutely ruined. As they have made up their minds to strike rather than submit, their Association has met and drawn up a moderate tariff so as to allow all citizens, including the poorest, to receive treatment during the strike on condition that the fee is paid on the spot. Families whose income is below 1,200 crowns will pay a crown, or a little over tenpence, a visit. If the doctor calls at the patient's house, or has to make a lengthy journey, or if the income of the family exceeds 1,200 crowns, the tariff is raised appreciably, though it is still moderate. Consultations will cost from five to ten crowns. The Association has apprised the public of its decision to strike, and of its scale of fees, at the same time explaining that the attitude taken up by the doctors is the result of the proposed law, which would render private medical practice impossible in poor and middle-class families.—*Edinburgh Medical Journals.*

An Enlarged and Improved Lippincott's.

Thirty-two extra pages in the August Lippincott's enables that publication to present to its readers an unusually imposing table of contents, as well as some attractive new features. As usual, the magazine opens with a complete novel, "The Little Green Door," by Dorothea Deakin, author of "Georgie." This is a rare story, full of humor and charm, yet with a touch of pathos, too. The heroines are twin sisters, ingenious girls who fly in the face of convention when Fate plays them a shabby trick.

Charles Egbert Craddock, author of "The Fair Mississippian," contributes a long short-story of the Civil War, entitled "The Lost Guidon." Ellis Parker Butler, the "Pigs is Pigs" man, is responsible for

"Where There's a Will." Ella Middleton Tybout's offering is "The Efficiency of Miss De Long," a story of Department life in Washington, which may open the eyes of many in the service and out. Other short-stories are "Tea from Japan," by Edwin L. Sabin; "Square," by Anna Rozilla Crever; "The Arraignment of Sarah McElwell," by Luellen Teters Busenius; and "Fun," by W. Carey Wonderly. Another attractive feature coming under the head of fiction is a new department devoted to translations of tales by foreign authors, and entitled "Short-Story Masterpieces." This month's story is Guy de Maupassant's "Moonlight," with an introduction by the Editor.

"Athletics for School-Children" forms the theme of an inspiring article by Dr. Luther Halsey Gulick, one of the founders of the famous Public Schools Athletic League of New York. Other noteworthy papers are "Thou Shalt Not Steal," by Willard French; "Toward the Open," by Minna Thomas Antrim; "Let the Head-Lines Tell," by George L. Knapp; "The Boy Scouts Movement," by Edwin L. Sabin; "The Summer Girl," by John Kendrick Bangs; and "The Plans of the Bureau of the Census," by R. T. H.

A new departure for Lippincott's is the "Financial Department," which will be helpful to all investors, especially small ones.

Verses by Madison Cawein, Ruth Guthrie Harding, Dysart McMullen, Charles Hanson Towne, and W. J. Lampton, some pungent epigrams, the usual big department of humor—"Walnuts and Wine"—and a new department devoted to motor-cars and motoring, complete this noteworthy issue of a long-established magazine.

Athletics for School-Children.

What the Public Schools Athletic League has done and is doing for the young folk of New York and other cities forms the theme of an inspiring article in the August Lippincott's, by Dr. Luther Halsey Gulick, who was director of physical training in the New York public schools before he resigned to become director in the Russell Sage Foundation.

"While the earliest endeavors of the League took the direction of establishing great sets of the familiar match games and competitive sports, whose dramatic elements secure them large attention from the public press and make them talked about by the boys, these do not, however, represent the main interests of the League or constitute its most important work," explains Dr. Gulick. "Its chief concern has been to get boys of average or lower than average

physical ability into vigorous athletic sports, and this end it has attained to an unexpected degree through two new kinds of sports known as the button or badge test and class athletics.

"In the first of these a bronze or silver badge, according to the merits of the case, is given to every boy who can successfully reach certain standards in three events—running, jumping, and climbing (or chinning)—which are activities so fundamental in nature that they afford vigorous exercise to the various parts of the whole body. The badge is an oblong shield displaying a winged classical figure and a monogram of P.S.A.L. in bas-relief, and is worn as a button. In order to make the test available for a wide range of physical ability, three different badges, alike in form and decoration but distinctive in metallic composition, are awarded for the attainment of three varying standards.

"In setting the standards of the badge test, the League aimed to fix them at a point where about ten per cent. of the boys could, by faithful trying, win the prize. There was some disappointment, consequently, when at the end of the year it was found that only about two per cent. of the competitors had been successful. A great improvement was made, however, as soon as the principals and teachers began to interest themselves in the exercise of the boys. They showed them how to hold their hands in the pull-up, how to get a good breath before starting to run, and gave them other advice which enabled them to practice more advantageously. The improved physical development soon showed in larger percentages of winners. During a recent year over seven thousand badges were awarded in the elementary classes, and the Winthrop trophy (referred to previously) was won by a school in which fifty-nine per cent. of the enrolled boys were successful. It seems probable that ultimately the demand upon the treasury for these prizes will be something like sixty thousand a year.

"Class athletics, the other form of sports devised by the League to meet the needs of city boys, involve the same three events that are used in the badge test. But here the competition is between classes of the same school grade instead of individuals. The record of the class in jumping, for example, is obtained by summing the distances jumped by its members and dividing the total by the number of contestants, and likewise in the other events the average of the individual marks constitutes the record of the class. In order to qualify, at least eighty per cent. of the members enrolled must compete. As a rule, a larger part—frequently ninety or ninety-five per cent.—

actually participate, but the records of only the best eighty per cent. are taken. This arrangement was made to avoid the inevitable difficulties which would arise on account of absentees or pupils prevented from competing by physical disabilities if a higher proportion of the class were compelled to take part."

A Good Bismuth Preparation.

After an exhaustive study of the chemical and physical properties of bismuth and its compounds, the chemical experts of Parke, Davis & Co. succeeded, two or three years ago, in perfecting what many physicians consider the most eligible preparation of the kind, "Milk of Bismuth," P. D. & Co., a mixture containing the hydrated oxide of bismuth in suspension. The product is stable under all ordinary conditions of temperature and exposure to light and air.

The advantage which Milk of Bismuth, P. D. & Co., possesses over other compounds of the metal is the state of fine subdivision in which the hydrated oxide is presented. This insures its more thorough distribution over the mucous surface of the alimentary canal, upon which it exerts a peculiarly beneficial effect. Its action is not only astringent, but, as some writers have observed, it seems to have a specific effect upon certain lesions as ulcers, causing them to heal. It is also an antacid and protective, and is undoubtedly mildly antiseptic. Each fluid drachm of Milk of Bismuth; P. D. & Co., represents the bismuth equivalent of 4 grains of the sub-nitrate.

The Cure of Enuresis in Children.

According to some the cause is a hyperplasia of the central nervous system. The immediate cause is a hyper excitability of the detrusor vesicæ, with relaxation of the sphincter of the urethra, or a lack of development of the prostate and failure of the bladder orifice to close. The therapeutic measures must depend upon the conditions that exist. General hygienic and dietetic measures are appropriate in all conditions. For hyper-excitability of the detrusor, deficiency of the sphincter and lack of development of the prostate, causing deficient closure of the bladder orifice, to eight ounces of sanmetto add eight drops of belladonna and eight drops of tinct. nux vomica, and of this one-half to one teaspoonful given before each meal and at bedtime will be found useful. For reflex enuresis the removal of the cause followed with sanmetto.

The Declension of Bodily Vigor.

In the declension of bodily vigor, before instituting measures whose object is to over-

come the decline, the chief aim should be to determine with exactness the cause. In the large majority of cases, the cause ascertained, the need for a reconstructive will be plain. The blood will be found to be in need of corpuscular elements, the tissues, in general, will be in need of a serviceable nutrient. Cod liver oil, in the form of a palatable and easily assimilated cordial—such as Cord. Ext. Ol. Morrhuæ Comp. (Hagee) will meet the every requirement of a patient showing evidences of bodily decline. Not alone do the nutritious qualities of Cord Ext. Ol. Morrhuæ Comp. (Hagee) give it pre-eminent value but its palatability and the ease of its digestion augment in a considerable degree its therapeutic worth.

Summer Complaint.

Is novelty the only plea to put forward in a paper on treatment? Is there nothing whatever in the experience of years which makes it worth while? Is the physician's attention only to be attracted by the novelty of a treatment, or does he really desire to know what is the best treatment for any given affection?

The worst thing that can be said about the Abbott treatment of summer diarrhea is that it is old. It has withstood the test of a third of a century. During this time many other treatments have been devised, but none of them has approached the Abbott treatment in promptness and certainty. One reason for this is its simplicity. It is so easy to comprehend.

The Abbott treatment begins by regulating the hygiene of the patient, the house and its surroundings. Pure air to breathe, pure food to eat, pure water to drink. The child itself to be clean inside and outside. As the weather grows hotter the child is to be kept cooler.

To secure internal cleanliness, open the day with a moderate dose of Saline Laxative, just enough to sweep out of the alimentary canal all irritating, offensive substances that may be in it, but not enough to deplete. Instead of depleting the child this really proves a strengthening process, as it starts the day right.

At the first sign of trouble in the stomach and bowels begin with the W-A Intestinal Antiseptic tablets, giving just "dose enough" to keep the child's stools free from abnormal odor.

If true cholera symptoms arise meet them with the physiologic remedy. Excessive vomiting and purging mean inordinate irritation of the gastric terminals of the pneumogastric nerve, consequently a direct and

certain sedative of the vagus is indicated, and that is atropine. Give a hypodermic of atropine, enough to control the symptoms, no matter what this dose may be. For a child in its second summer begin with 1-1500 of a grain, repeat it in half an hour, increasing the dose to 1-1000 grain, or 1-750, or to whatever dose is necessary to control the symptoms.

When the disease has been checked and the period for reconstruction appears, substitute the sulphocarbolate of lime for the intestinal antiseptics, and give such tonic as in your judgment is indicated. A granule of quassin in solution before meals is a grand remedy. A granule of juglandin goes far to restore healthy secretions, to take the place of the vitiated ones characterizing the disease.

As to diet, simplicity rules. Give only one article of diet each week, choosing for this purpose from the following list: The raw white of egg in water, barley, rice or oat water; pure freshly pressed fruit juices, clear strained animal broth, milk, and administering meanwhile the Galactenzyme tablets, containing the Bulgarian bacillus, the lactic-acid germ, to complete the destruction of the pathogenic bacteria in the alimentary canal.

When any treatment is devised which excels this, we shall drop this one and adopt the new. We have been waiting thirty-two years to find a better one.

A Tissue Nutrient for the Summer.

Oft times during the summer, the physician is put to his very wit's end to find a tissue nutrient for his tubercular and debilitated patients; one that will agree with them during the hottest weather. Cord. Ext. Ol. Morrhuæ Comp. (Hagee) by reason of its palatability and the ease with which it is assimilated, is the ideal agent of this character not alone in the summer but at all other seasons.

In Nervous Excitement.

The principal indications for Peacock's Bromides are, of course, epilepsy, uterine congestion, headache and all neuroses. Being a safe and certain nerve sedative, it will be found a most valuable aid whenever the mental functions are overtaxed, producing insomnia. Peacock's Bromides does not compel sleep, like hypnotics, but by allaying the existing nervous excitement, whether due to mental strain, worry or anxiety, it promotes sleep in a normal manner. Unlike the effects from hypnotics, the patients awakens refreshed, with a clear head, and does not suffer from unpleasant sequelæ the following day. The overstimu-

lation of the cerebral functions from alcohol yields promptly to the soothing action of this preparation.

Bromism.

When Peacock's Bromides are given over a prolonged period, as is often necessary in epilepsy and nervous diseases, its advantages over commercial substitutes are unmistakable. While bromism cannot be absolutely prevented in patients having an idiosyncrasy toward bromides, it has been positively demonstrated that Peacock's Bromides can be given with greater freedom from untoward action, and that frequently the preparation can be employed to continue bromide treatment after the commercial bromides were necessarily discontinued. This severe trial is perhaps the most convincing evidence of its superiority.

An Ideal Purgative Minus Cathartic Iniquities.

This elegant product represents a real advance in the therapy of intestinal constipation. No one can use this remedy without being impressed with its prompt effects, convenience of use and surprising absence of undesirable consequences. The tablets are edible, pleasant to take, and will always be found to be a safe and positive eliminating agent in either toxic or non-toxic conditions of the intestines. They do not excessively excite peristalsis and therefore do not produce griping or irritation of the gastro-intestinal mucous membrane. It is certainly a scientific achievement in the successful treatment of constipation, for "after-constipation" will not result from its use, and in the language of Dr. J. P. Hawes, it proves to be "a laxative that is pleasant to take, does its work nicely, and QUILTS there."

The Mastery of Pain.

An anesthetic that is slowly but surely displacing chloroform and ether is Hyoscine-Morphine-Cactin Compound. It may be used in connection with chloroform or ether if desired (of which only a few whiffs will be required) or it may be used alone by one of experience (pushed to effect) when it produces an anesthetic under which the most extensive operations may be performed. And, all the while the knife is being used, the patient feels absolutely no pain, yet he is semi-conscious and often able to answer any question put to him during the entire operation.

What is more—it is safer than any other anesthetic in common use. Statistics prove it. Over ten million tablets have been used in all sorts of cases by all sorts of operators,

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still only eight deaths have been charged to it and these cases would probably have died anyway.

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A Persuasive Tonic, Not a Therapeutic Lash.

Clinical observations demonstrate Cactina Pillets to be a mild tonic stimulant to the heart, acting both on the mechanism and directly upon the heart muscle. Its continued use will promote cardiac nutrition and overcome atony of the heart muscle. And in this assistance it affords the heart and circulation there is absolutely no danger of creating untoward symptoms or annoyance to the patient.

The Evolution of Infant Feeding.—Forsyth (Proceedings of the Royal Society of Medicine) traces the history of infant feeding from the middle of the fifteenth century, when breast feeding was the only means of nourishing a young child, feeding bottles not having been invented and artificial foods being limited to bread and pulse, down to the time of the scraped-horn feeding bottle, the bottle with the prepared heifer's teat nipple (to be used until it became putrid), the pap boat and the pap spoon. Cow's milk began to be used with some success about 1800 and by 1850 the success of artificial feeding was assured, and by the beginning of this century was so far perfected that it became evident that the maternal breast was no longer essential to the infant and that the physiological law which for untold centuries had bound the whole mammalian kingdom had now been repealed by man's own ingenuity.

The most significant fact that this history has brought out is the progressive decline in the period of suckling. Beginning in the fifteenth century at two to three years, it had decreased 200 years later to a couple

of years. Before the middle of the eighteenth century it lasted only eighteen to twenty months. In the next century it had become eleven to twelve months, and it stands now, at the beginning of the twentieth century, at no more than seven to nine months. Tracing it thus through more than 400 years we cover a period of a dozen generations, in each of which the mothers gave or were able to give less time to suckling their offspring than in the last. This change, so gradual, but so consistently in one direction, must betoken more than a mere passing fashion. It raises a question of the first importance. Does this shortening represent a physiological variation in our race which, still in progress, has yet to reach its goal? If we answer this affirmatively (as, contrary to the author's own preconceptions, he feels constrained to do by the logic of facts and time) we must admit that maternity is losing one of its chief functions. With the women of today feeding their infants only for as many trimesters as their ancestors did years, what power of suckling will be left to the woman of tomorrow and the day after.

Maternal breast feeding has not only become shortened, it has become less frequent. At first wet-nursing took place. This came into favor, had its day, and was overthrown by the sucking bottle, but for the last century and a half artificial methods have been forcing their way to the front, and have reached their widest popularity in the opening years of the twentieth century. Hand-feeding is already so well understood that beyond all dispute an infant can be reared by it with perfect safety to its health. As its principles become more extensively known (and efforts to this end are being made on every side) larger numbers of children will be reared by hand alone. The conclusion seems forced on us that in time this method is likely to still further supplant the method of nature.

Looking ahead, can we discern at all clearly the probable development of artificial feeding? Here and there we find indications that the basis of age as a measure of nutritional needs is already becoming worn out. Infants of one age are by no means necessarily of one size. Their weights vary, and the amounts of nourishment their bodies require cannot be identical. In place of age a physiological basis will be looked for. We know that the largest share of a warm-blooded animal's food is needed as energy to supply it with animal heat. With infants the same relation holds good, and before long the predominant importance of this question of animal heat is likely to be recognized. Another likely development already showing itself is in the use of foods

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other than milk. Human milk has long been increasingly supplanted by cow's milk. Cow's milk in its turn is meeting with the rivalry of patent foods. Nor is this altogether cause for surprise. Cow's milk is open to obvious and serious objections. It is easily contaminated. It is frequently diseased. It is both frequently and easily tampered with before it reaches the infant. These disadvantages are not readily discovered, except by the harm they produce. At best cow's milk is variable in composition, bulky in transit, inconvenient to store, and soon loses its sweetness. The patent foods, on the other hand, with which it has to contend are prepared by scientific methods that prevent the risk of contamination. They are never diseased, rarely tampered with, and usually are consistent in composition. Prepared in a concentrated, solid form, they are convenient in transit and storage, retain their freshness indefinitely, and are readily converted into a liquid such as an infant requires. On which side will popular opinion ultimately rest?

On the whole, the future of infant feeding would seem to lie with the artificial methods. At first encounter this conclusion can hardly be pleasant to those who have consistently advocated the superiority of breast feeding. It is a conclusion, however, which, once admitted, is bound to obtrude itself in our daily practice. If we are satisfied that a mother is able to provide facilities for artificial feeding and at the same time to avoid its risks we cannot decline to consider a method which has much in its favor. The author's own experience is that medical men, except when working among the poor, whose ignorance is a fatal objection, are inclined to regard the feeding-bottle with less disfavor than they used to feel when its risks were greater. In doing this they are displaying a practical appreciation of what history proves to be the modern trend of infant feeding.

Experimental Researches on the Ovarian Cytotoxins.—Chiaje (Rev. de gyn. et. de Chir. abd.) states that the ovaries fail to follow the same laws as the other organs with respect to cytotoxins, and the attempt to obtain an ovarotoxic serum by the ordinary methods has failed. He made experiments on dogs for the purpose of obtaining cytopoietines, and in this search obtained unexpected results. He removed blood from one animal, defibrinated it and injected it into another dog. The Doctor's experiments are described and a history of all the work that has been done in this line is given. Taking as a basis the histological characteristics of the numerous ovarian preparations and preparations of other or-

gans, and the narrow relations which exist between the degree of intensity of the destructive process in the ovary, and technical differences, he concludes that defibrinated blood serum of a bitch from which one ovary has been removed produces fatty degeneration of the ovarian follicles, liver, and kidneys in another animal of the same species. Blood from a normal bitch produces the same effects. The same fatty degeneration results from injecting into a dog its own defibrinated blood. The same alterations arise if castration has been done on only one side. To the lesions obtained correspond functional troubles of the organ, which lead to sterility in bitches. The intensity of the effects produced on the ovary by the toxins varies as in the case of the liver and kidney. The process of degeneration that takes place in the ovary varies with the condition of the animal, according to whether the castration has been single or double. Pregnancy does not modify the toxic action of the defibrinated blood. The changes in the ovary should be attributed to the ordinary alexins circulating in the blood; they differ only in intensity from the changes of the normal ovary, since the toxin acts with great rapidity. The continual physiological destruction of the ovules is due to the action of a substance formed by the metabolic activity of the tissues; the ovary, and especially the corpus luteum, is endowed with a special antitoxic function. The most vulnerable part of the ovary is the ovule, at whatever stage of development; the elements of the granulosa have a greater resistance and undergo degeneration later. It is inexact to say that the follicular epithelium is the means of nutrition of the ovules. The false corpus luteum should be considered as a connective-tissue formation, not an epithelial body. The laws of cytotoxins are based on false principles, since normal blood produces the same alterations in the liver and kidneys; fruitless searches for an ovarian cytotoxin have a physiological significance, for they lead to the belief in the formation of an ovarian antitoxin. There are no ovarian cytotoxins; there are ovarian lesions, forms of sterility whose pathology escapes clinical investigation. If we can apply these discoveries to the human ovary we may find in them a means of treatment of some morbid states, as well as a simple method of causing sterility in women, when there are rational therapeutic indications for this.

Right-sided Abdominal Pain in Women.—Bland Sutton, in *The London Practitioner*, says that for several years it has been his custom in dealing with persistent right-sided abdominal pain, in which it is impos-

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sible after careful clinical examination to decide which organ is at fault, and in which the patient's condition is such as to justify operative interference, to make a fairly free incision in the line of the right linea semilunaris and systematically examine the organs on the right side of the abdomen. This incision allows the surgeon to examine the pelvic organs, including the ureters, the cecum, vermiform appendix, kidney, gall-bladder and ducts, the pancreas, duodenum, pylorus, and liver. It also has the advantage of permitting him to deal with conditions requiring surgical treatment in almost any of the organs mentioned. It is by no means uncommon to find two diseased conditions co-existing and either or both of them may be dealt with through the same incision. It has occasionally happened that in some patients nothing has been seen to account for the pain, and in a few, unexpected pathological conditions have been found. Occasionally an operation has revealed the presence of serious and painful disease in young women who had been treated as hysterical by their parents and by the medical attendant. No young women should be labelled hysterical simply because our crude methods of clinical investigation fail to indicate the cause of the painful sensations.

Glycogen in the Discoid Placenta.—

Zabetsky (L'Obstet.) has made a study of the glycogenic function of the decidua and placenta and its role in the hydrocarbon nutrition of the fetus. Glycogen is the only carbohydrate whose presence may be detected by the microscope; it belongs to the group of hyaline substances. The basic substance is an albuminoid substance possessing all the properties of vegetable starch. By acids it is transformed into dextrin and sugar. The physiological ferment of this substance is found in the liver and blood. The presence of glycogen in a cell is an indication of great activity of its protoplasm. He has studied glycogen in the placenta, in the guinea-pig, rabbit, monkey, and woman. Glycogen is found in the human placenta throughout pregnancy, being most abundant early in the pregnancy, and lessening with the age of the fetus. The placenta plays an important part in the glycogenic function of the infant. The conclusions given are that decidual tissue possesses a glycogenic function shown in a way which recalls the process of internal secretion. The glycogen elaborated by the decidual cells is one of the principal sources of the hydrocarbons used in the nutrition of the fetus during intrauterine life. It is energetically absorbed by the ectoplacental plasmodium and is disposed in masses in it.

As the substance is needed by the fetus it is given off by the placenta. The placenta probably has the power of absorbing the glycogen from the mother's blood.

Relations Between the Urinary Apparatus and Genital Apparatus in the Woman from the Point of View of Pathology.—

Bazy (Bull. med.) says that the frequency with which infections of the bladder and uterus coincide. He believes that the reason for this is simply that the same microbe attacks the two structures, there being no direct communication of the infection from one organ to the other. Fibromata, uterine displacements, and urinary infections favor the production of cystitis, but when they are removed the cystitis does not cease but remains, if of bacterial origin. The effects of tumors are purely mechanical. Retention of urine caused by retrodisplacements is rare. Prolapsus, on the contrary, will often cause retention. The prolapsed wall carries with it the ureters. They become obstructed and inflammation of the calices and pelvis of the kidneys takes place. He believes that we should consider as separate the lesions of the genital and urinary organs, and should not exaggerate the influence of the genital organs and their diseases on the bladder.

Hydatid Cyst of the Uterus.—Giles (Proc. Ray. Soc. Med.) mentions the case of an unmarried woman thirty-two years old who had noticed for some time a swelling in the lower part of the abdomen, but had neither pain nor discomfort from it; menstruation was regular and moderate, and she had felt perfectly well until the last month, when she suffered a good deal from nausea. A rounded, soft tumor, the size of a fetal head, connected with the front and left side of the uterus, was felt just above the pubes. It was found to arise from the anterior and left aspect of the body of the uterus. Fearing a degenerating malignant growth the writer did a panhysterectomy. When opened the uterus was found to contain a hydatid cyst. Recovery was uneventful and no evidences of echinococcus invasion were observed elsewhere, the case being therefore apparently one of primary echinococcus cyst of the uterus.

The Charlotte Sanatorium

Charlotte, N. C.

Surgical Department

THE SURGICAL ROOMS OF THE CHAR- LOTTE SANATORIUM

The Sanatorium is especially arranged for the handling of a large number of operative cases. Seven rooms have been set apart for the operative department. The designers spared no pains or expense in making these rooms perfect for which they are used, and they are examples of modern efficiency. This department is cut off from the rooms in which the patients are subsequently cared for. They face the South and have an abundance of light and ventilation.



Seventh Street Entrance.



Minor Operating Rooms,
ways ready for instant use.

The first room is used for a minor operating room and can also be arranged for examinations and treatments. Tables of the latest pattern are used for operations or examinations, or both as may be necessary. The room is shown prepared for a minor operation with all the necessary dressings and instruments. The cabinets in this room are of steel and glass and contain dressings and sterilized materials of all kinds for general use in the surgical department. In this way the sterilized materials are kept free from dust or other contamination and are al-



Instrument Room.

The next room is the instrument apartment. It contains large instrument cases of the latest models. These cases are filled with every modern surgical instrument, many of which are imported. The collection is most complete and any needed instrument is at once available for any emergency that might arise. To one side are the solution stands in which the standard stock solution are kept, so that the working solutions can be obtained at any moment.

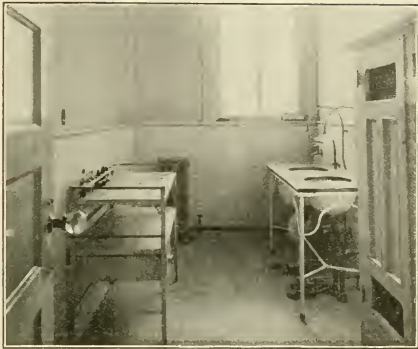


Across the hall from the two rooms previously mentioned is the dressing room for the surgeons. In this room are six roomy lockers and a double lavatory of glass and porcelain. The lavatories were specially made for the Sanatorium and have complete foot control. Adjoining this room and a part of it, is a private bath and toilet. Every convenience is at hand for the operator and his friends to become thoroughly prepared before going into the operating rooms.

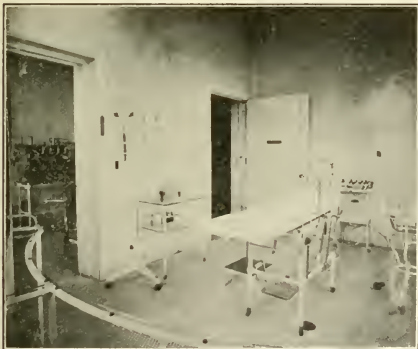


Surgeon's Dressing Room.

The next room is the nurses' dressing and preparation room. A large double lavatory with solid glass top and porcelain bowls are used for hand sterilization. These are operated entirely by the foot so that the hands need not touch anything after the preparation has once begun. A large slop sink is set in one corner for solutions and soiled discharges from the operating room. A white enamel table is used for emergency medicines and materials for quick dressings.



Nurses' Dressing Room.



Operating Room A.

This shows operating room A, and indicates the completeness and convenience of the arrangement. The table is of the latest model of white enamel frame, with glass and nickel plated top and nickel plated steel fixtures. On this the patient can be put in any position at a moment's notice. A large circular glass table is used for the instruments and dressings and can be wheeled to the operators' side where everything is at hand. The glass top stool, medicine and anesthetic tables are easily placed at any desired point. The floor is tile, the

wainscoting of marble with enamel ceiling. The woodwork is in white enamel and every thing can be thoroughly cleaned.

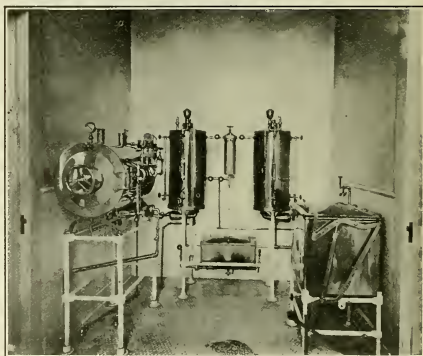


Operating Room B.

fitted up with the most improved-table, stands and other accessories that go along with a modern operating room.



The sterilizing room is, of course, one of the important rooms connected with the operating department. It is situated between the two operating rooms A and B, and communicates with both of them. This room is furnished with two water sterilizers, a large pressure sterilizer for dressings, a full sized instrument sterilizer and a roomy utensil sterilizer in which the largest pans, basins or pitchers can be boiled. By these means everything going into either one of the operating rooms can be made perfectly sterile and absolutely safe.



Sterilizing Room,

made perfectly sterile and absolutely safe.

This shows the hall leading from the main corridor to the different operating rooms. The first door to the left opens into the minor operating room, the second door is the instrument room, the ones at either end of rolling stretcher, open into operating room A on the left and operating room B on the right. The first door on the right is the surgeons' dressing room and the next opens into the dressing room for the nurses.

The solution basins for the hands are shown on stand between the dressing rooms. The patients' carriage or rolling stretcher is shown beneath the clock.



Hall.

OFFICERS AND STAFF OF SANATORIUM:

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EDWD. C. REGISTER, M. D., Vice-Pres. W. D. WITHERBEE, M. D., Sec.-Treas.

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CHIEFS OF DEPARTMENTS AND ASSOCIATES

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CHIEF PHYSICIAN

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EYE, EAR, NOSE AND THROAT

A. M. Whisnant, M. D.

J. P. Matheson, M. D.

DISEASES OF DIGESTION

W. O. Nisbet, M. D.

SURGERY

G. W. Pressly, M. D.

C. M. Strong, M. D.

ASSOCIATE SURGEONS

B. C. Nalle, M. D.

A. G. Brenizer, M. D.

GENITO-URINARY AND RECTAL DISEASES

A. J. Crowell, M. D.

CANCER AND SKIN DISEASES

W. D. Witherbee, M. D.

ANESTHETICS

J. C. Montgomery, M. D.

The operating Department in General Surgery is in the hands of the following Specialists:

GENERAL SURGERY—G. W. Pressly, M. D.; C. M. Strong, M. D.; B. C. Nalle, M. D.; and A. G. Brenizer, M. D.

GENITO-URINARY SURGERY—A. J. Crowell, M. D.

EYE, EAR, NOSE and THROAT—A. M. Whisnant, M. D., and J. P. Matheson, M. D.

CHEMICAL and MICROSCOPICAL LABORATORY—L. B. Newell, M. D.

LABORATORY OF SURGICAL PATHOLOGY—A. G. Brenizer, M. D., Director.

The second annual report of the surgical department shows that 444 operations were performed during the year 1910.

An Ideal Purgative Minus Cathartic Iniquities.

This elegant product represents a real advance in the therapy of intestinal constipation. No one can use this remedy without being impressed with its prompt effects, convenience of use and surprising absence of undesirable consequences. The tablets are edible, pleasant to take, and will always be found to be a safe and positive eliminating agent in either toxic or non-toxic conditions of the intestines. They do not excessively excite peristalsis and therefore do not produce griping or irritation of the gastro-intestinal mucous membrane. It is certainly a scientific achievement in the successful treatment of constipation, for "after-constipation" will not result from its use, and in the language of Dr. J. P. Hawes, it proves to be "a laxative that is pleasant to take, does its work nicely, and QUITs there."

The Mastery of Pain.

An anesthetic that is slowly but surely displacing chloroform and ether is Hyoscine-Morphine-Cactin Compound. It may be used in connection with chloroform or ether if desired (of which only a few whiffs will be required) or it may be used alone by one of experience (pushed to effect) when it produces an anesthetic under which the most extensive operations may be performed. And, all the while the knife is being used, the patient feels absolutely no pain, yet he is semi-conscious and often able to answer any question put to him during the entire operation.

What is more—it is safer than any other anesthetic in common use. Statistics prove it. Over ten million tablets have been used in all sorts of cases by all sorts of operators, still only eight deaths have been charged to it and these cases would probably have died anyway.

Hyoscine-Morphine-Cactin Compound is injected hypodermically to produce anesthesia. Employed this way or given by mouth it is an effective pain-reliever in neuralgia, strangulated hernia, colic and all painful conditions. It is a Godsend in obstetrics—for subduing the pangs of childbirth.

Again it is a sedative of a high order, the best one can give, in spasms (as hiccough) or manias (as delirium tremens). It enables the doctor to control the patient perfectly and may be pushed till sleep is secured.

The Abbott Alkaloidal Company of Chicago make it; they offer to send a sample and booklet to any doctor who is interested.

They also make a local anesthetic, under

the name of Anesthaine, which is a good substitute for cocaine.

A Persuasive Tonic, Not a Therapeutic Lash.

Clinical observations demonstrate Cactina Pillets to be a mild tonic stimulant to the heart, acting both on the mechanism and directly upon the heart muscle. Its continued use will promote cardiac nutrition and overcome atony of the heart muscle. And in this assistance it affords the heart and circulation there is absolutely no danger of creating untoward symptoms or annoyance to the patient.

"Paraldehyd" possesses many of the good without the evil qualities of chloral. Used in insomnia resulting from various causes. The objectionable taste of the chemical is, to a great extent, disguised in Robinson's Elixir Paraldehyd (see page xiv this issue) which is an elegant preparation.

The Value of Fibrolysin in Conjunction with Salvarsan.

Fibrolysin, a water-soluble compound of thiosinamine, was introduced by F. Mendel in 1905, and has since then steadily gained in popularity in all branches of medicine. Thiosinamine itself was never employed generally, since it is almost insoluble and absorbed only with difficulty, though undoubtedly possessed of a specific effect upon scar tissue, no matter where present. No other drug shares this property with thiosinamine, but it was not until offered in the form of fibrolysin that its general usefulness became apparent.

Fibrolysin exerts its specific effect to a marked degree upon pathological connective tissue. It here stimulates the absorption of pathological exudates, counteracts the hyperplasia of scar tissue and improves its elasticity. This applies not only to scar tissue, but to all bands, adhesions and surface agglutinations between serous membranes and to thickenings and contractures of all kinds, as well as to interstitial connective tissue, proliferation in the internal organs and the central nervous system. The drug is by no means infallible, and occasionally fails where the conditions seem most favorable for a prompt effect, yet in the majority of instances the results obtained are excellent.

Recently, the drug has also been recommended as prophylactic to prevent the formation of infiltrates. It may thus be injected together with salvarsan, to insure a better absorption of the latter. It is probable that the application of fibrolysin plaster to the site of injection will be sufficient. It is, however, claimed that the injection o.

fibrolysin will tend to soften firm luetic infiltration and thus render them more susceptible to the action of salvarsan. It is therefore advisable to first treat all advanced cases of syphilis and cases of tabes with fibrolysin, better salvarsan is injected.

Every physician who uses fibrolysin should know what possible after-effects to expect. The most common method of application is the intramuscular injection, and here the only local after-effects are a slight burning at the site of injection and a slight infiltration. These are almost entirely avoided if the solution is warmed to 45° C. before injection. Common general symptoms are an odor of onions in the breath and an increased flow of urine with leucocytosis. In rare cases there is an idiosyncrasy, and these patients will complain of headache, languor and vertigo. A gradual tolerance is, however, established, particularly if the initial doses are small.

Rarely real toxic symptoms appear. The patients are seized with a chill, followed by high fever and severe prostration. Occasionally there is also an eruption (like measles, urticaria, dermatitis or lichen). These symptoms are very rare and disappear after forty-eight hours, while the therapeutic effect of the drug is nevertheless excellent. Strangely enough, these symptoms are often seen only after the later injections, and after every subsequent one, unless much smaller doses are employed.

This peculiar action of fibrolysin is best explained as an anaphylactic phenomena. The first injections cause no symptoms; in the meantime, the fibrolysin has converted the collagen of the scar tissue into gelatin, which is thrown into the circulation as a foreign albuminoid, capable of inducing the formation of antibodies. With every new injection of fibrolysin more gelatin is carried into the blood, where it is at once broken up into simpler toxic decomposition products by the anti-bodies resulting from the previous injections. The general symptoms, their short duration and the local phenomena of reddening and softening in the scar tissue, all suggest anaphylactic processes. By subsequently giving very small doses, an antianaphylaxis may, however, be established, like with proteids.

A similar anaphylaxis has been observed from the percutaneous application of fibrolysin, in the form of 10-per-cent. plaster. Thus, a keloid, treated daily with the plaster, became smaller and softer, when suddenly a dermatitis set in. Even after several months, every application of plaster gave rise to a decided reddening of the skin. The fact that anaphylactic symptoms can be thus induced is undisputable proof that the local application of the drug is an effect-



GLYCO- THYMOLINE

FOR
SUMMER COMPLAINTS

PROPHY LAXIS—The very nature of artificial foods and cow's milk predisposes to their rapid decomposition. A few drops of Glyco-Thymoline added to each feeding corrects acidity and prevents disorders of stomach and intestines.

TREATMENT—As an adjunct to your treatment of summer complaints, Glyco-Thymoline used internally and by enema corrects hyper-acid conditions, stops excessive fermentation and prevents auto intoxication. It is soothing—alkaline—nontoxic.

KRESS & OWEN COMPANY,
210 Fulton Street, New York.

FORMULA:

Benzo-Salicyl. Sod. .33-33; Eucalyptol .33; Thymol. 17; Salicylate Methyl. from Betula Lenta .16; Menthol .08 Pini Pmullionis .16; Glycerine and solvents q. s. 480.



DIOIBURNIA

AN EFFICIENT UTERINE TONIC ANTISPASMODIC, ALTERATIVE AND ANODYNE. Indicated in Dysmenorrhea, excessive Leucorrhoea, Menorrhagia, Threatened Abortion and wherever a Uterine Tonic is required. When accompanied by extreme Nervousness, combine two parts Dioiburnia with one part Neurosine.

FREE—FULL SIZE bottle of DIOIBURNIA, NEUROSINE and GERMILETUM, with complete formula and literature, furnished only to Physicians, who desire to give same a trial.

DIOS CHEMICAL CO., ST. LOUIS, MO.

ive measure in superficial processes.

Fibrolysin given by mouth is apt to cause gastric irritation, and the effect is not constant. Good results may, however, be obtained if administered per rectum in solution, or, better still, in suppositories (each containing 0.3 Gm.). Their effectiveness is evidenced by the odor of onions on the breath of patients and by the prompt appearance of symptoms of anaphylaxis in those previously sensitized with intramuscular injections.

The rectal use of fibrolysin (one suppository before retiring) is especially indicated in exudates and thickening of the female pelvis, especially if assisted by mechanical treatment. Splendid results are also seen in chronic affections of the joints. The after-effects are the same, though less common. In some cases it is desirable to use both injections and suppositories.

With the appearance of anaphylactic symptoms the cure should not be interrupted, but should be continued with smaller doses, since frequently the most brilliant results are obtained in these cases, and a marked improvement in the local condition may be evident as soon as the symptoms decline. The reaction never does harm, even if a full dose is subsequently given.—F. Meudel, Therap. d. Gegenwart.

Colorless Iodine of no Value as Skin Disinfectant.

Willmott Evans in an article on the value of iodine as a disinfectant of the skin before operations writes that in all the various external applications of iodine, attempts are often made to employ one of the "colorless iodines," and he pointed out the fact that colorless iodine has very little antiseptic power. Iodine is decolorized in several ways; by the use of any of the alkalies, by carbolic acid, by sodium thiosulphate, and by sodium sulphite, but in every one of these methods the iodine enters into combination, and thereby loses all or the greater part of the antiseptic power for which it is chiefly employed. For instance, if caustic potash is used potassium iodide and potassium iodate are formed and no free iodine is left, and it need hardly be said that neither the iodide nor the iodate of potassium has any great antiseptic power. There-

fore, these "colorless iodines" are useless for sterilizing the skin, and, in fact, they are of very little value for any purpose.—The London Lancet.

Vaccine In Gonorrheal Complications.

Twenty five cases of acute, subacute and chronic gonorrheal epididymitis were treated by Friedlander and Reiter with polyvalent vaccine (0.2 Cc. every two or three days, increased to 1 Cc.). Even the large doses caused only slight general disturbance. Twelve to fourteen hours after the injection, a local reaction was usually present in the form of slight reddening and tenderness. Absorption usually begins promptly by the second day and is ended much quicker than after other methods of treatment (9 to 14 days). The mucous membrane of the posterior urethra does not seem to be influenced by the vaccine. In acute catarrhal prostatitis, gonorrheal in origin, rest in bed and hot applications usually do so much good that it is almost impossible to form an opinion of the action of the vaccine, but excellent results were seen in acute and subacute follicular prostatitis. One case of subacute spermato cystitis was much improved but not cured by eight injections. Encouraging results could also be reported in oophoritis and adnexal disease. The treatment was disappointing in acute and subacute anterior and posterior urethritis and urethrocystitis, where local treatment still gives most satisfaction.—Berl. klin. Woch.

Salvarsan.

Marshall believes that in the present state of knowledge there is no drug which can replace mercury in the treatment of syphilis. Although salvarsan causes rapid healing of certain syphilitic lesions, this effect is not constant and is often only temporary. There is no proof that an abortive cure of syphilis can be realized by this drug. If salvarsan is indicated at all in the treatment of syphilis it is chiefly in those cases which are not influenced by mercury, but such cases are rare. Moreover, some cases resist the action of both drugs. The administration of salvarsan is attended with many risks and dangers.—London Lancet.

Each return of the season in which these affections prevail witnesses an increase reliance on the part of physicians on

GLYCO-HEROIN (Smith)

IN
Asthma
Bronchitis
Cough
Phthisis
Pneumonia
Etc.

Glyco-Heroïn (Smith) has always been distinguished for the exceptional promptness with which it relieves respiratory distress, promotes expectoration and allays inflammation of the bronchial and pulmonary passages.

DOSE:—The adult dose of GLYCO-HEROIN (Smith) is one teaspoonful repeated every two hours or at longer intervals as the case may require. Children of ten or more years, from a quarter to a half teaspoonful. Children of three years or more, five to ten drops.

MARTIN H. SMITH COMPANY

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EFFICIENT COMBINATION

DIOVIBURNIA, NEUROSINE 2-1 IN NEURASTHENIC UTERINE DISEASES, NON-DESCRIPTIVE CASES AND WHEREVER ANTISPASMODIC AND NEUROTIC IS REQUIRED.

FREE.—Perpetual Visiting Book. 128 pages full size bottle of Dioburnia, Neurosine and Gemilium furnished free to Physicians paying express charges. Formulas and literature, also, if desired, by mail. DIOX CHEMICAL CO., ST. LOUIS, MO.

Diatribes Fallen Flat.

The literature on American antipyretics, analgesics and anodynes is voluminous, and clinical reports from prominent medical men in all parts of this country, with society proceedings and editorial references, attest their value in actual practice in an endless variety of diseases and symptomatic affections, such as the neuralgias, rheumatism, typhoid and other fevers, headaches, influenza and particularly in the pains due to irregularities of menstruation. Antikamnia has received more favorable criticism because of its success than any other remedy known. Some critics have seemed personally aggrieved because of its American source, and that it did not emanate from the usual "color works," but their diatribes have fallen flat as do most persecutions and unreasonable and petty prejudices. The fact stands incontrovertible that antikamnia has proven an excellent and reliable remedy, and when a physician is satisfied with the effects achieved with a remedy he usually holds fast to it. That is the secret of the antikamnia success. The dose is from one to two five-grain tablets. Antikamnia Tablets are today in greater use than any other remedy of their kind.

Summer Complaint.

Is novelty the only plea to put forward in a paper on treatment? Is there nothing whatever in the experience of years which makes it worth while? Is the physician's attention only to be attracted by the novelty of a treatment, or does he really desire to know what is the best treatment for any given affection?

The worst thing that can be said about the Abbott treatment of summer diarrhea is that it is old. It has withstood the test of a third of a century. During this time many other treatments have been devised, but none of them has approached the Abbott treatment in promptness and certainty. One reason for this is its simplicity. It is so easy to comprehend.

The Abbott treatment begins by regulating the hygiene of the patient, the house and its surroundings. Pure air to breathe, pure food to eat, pure water to drink. The child itself to be clean inside and outside.

As the weather grows hotter the child is to be kept cooler.

To secure internal cleanliness, open the day with a moderate dose of Saline Laxative, just enough to sweep out of the alimentary canal all irritating, offensive substances that may be in it, but not enough to deplete. Instead of depleting the child this really proves a strengthening process, as it starts the day right.

At the first sign of trouble in the stomach and bowels begin with the W-A Intestinal Antiseptic tablets, giving just "dose enough" to keep the child's stools free from abnormal odor.

If true cholera symptoms arise meet them with the physiologic remedy. Excessive vomiting and purging mean inordinate irritation of the gastric terminals or the pneumogastric nerve, consequently a direct and certain sedative of the vagus is indicated, and that is atropine. Give a hypodermic of atropine, enough to control the symptoms, no matter what this dose may be. For a child in its second summer begin with 1-1500 of a grain, repeat it in half an hour, increasing the dose to 1-1000 grain, or 1-750, or to whatever dose is necessary to control the symptoms.

When the disease has been checked and the period for reconstruction appears, substitute the sulphocarbolate of lime for the intestinal antiseptics, and give such tonic as in your judgment is indicated. A granule of quassin in solution before meals is a grand remedy. A granule of juglandin goes far to restore healthy secretions, to take the place of the vitiated ones characterizing the disease.

As to diet, simplicity rules. Give only one article of diet each week, choosing for this purpose from the following list: The raw white of egg in water, barley, rice or oat water; pure freshly pressed fruit juices, clear strained animal broth, milk, and administering meanwhile the Galactenzyme tablets, containing the Bulgarian bacillus, the lactic-acid germ, to complete the destruction of the pathogenic bacteria in the alimentary canal.

When any treatment is devised which excels this, we shall drop this one and adopt the new. We have been waiting thirty-two years to find a better one.

ST. LUKE'S HOSPITAL

OPEN THE ENTIRE YEAR.

RICHMOND, VA.



Owned and personally conducted by Dr. Stuart McGuire for the use of his private patients.

Recent additions and alterations make it one of the largest and most complete private Sanatoria in the country.

Single and double bedrooms with or without baths. No wards.

New Sun Parlor and Roof Garden.

Rates from \$2.00 per day up.

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Morganton,
North Carolina.

A Private Hospital for the Treatment of Nervous and Mental Diseases, Inebriety and Drug Habits

A home for the Permanent Care of **SELECTED CASES OF CHRONIC NERVOUS AND MENTAL DISEASE.**

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LOUIS G. BEALL, M. D.

Both Medical Officers reside in the SANATORIUM and devote their whole time to its service. New addition just completed admits of thorough classification of patients, and gives better facilities for the care of all. Billiards, Tennis and other diverting amusements.

Complete equipment for Hydrotherapy now being installed.
Correspondence with physicians solicited.



GERMILETUM

A SUPERB ANTISEPTIC, GERMICIDE AND DEODORANT. Non-toxic, non-poisonous, non-irritating, slightly alkaline, almost specific in Catarrh and Eczema. An elegant, cooling, deodorizing Antiseptic for the sick room. Par excellent in Obstetrical practice and wherever an Antiseptic is required.

FREE—FULL SIZE bottle of DIOVIBURNIA, NEUROSINE and GERMILETUM with complete formula and literature furnished only to Physicians, who desire to give same a trial.

DIOS CHEMICAL CO., ST. LOUIS, MO.

A Tissue Nutrient for the Summer.

Oft times during the summer, the physician is put to his very wit's end to find a tissue nutrient for his tubercular and debilitated patients; one that will agree with them during the hottest weather. Cord. Ext. Ol. Morrhuæ Comp. (Hagee) by reason of its palatability and the ease with which it is assimilated, is the ideal agent of this character not alone in the summer but at all other seasons.

In Nervous Excitement.

The principal indications for Peacock's Bromides are, of course, epilepsy, uterine congestion, headache and all neuroses. Being a safe and certain nerve sedative, it will be found a most valuable aid whenever the mental functions are overtaxed, producing insomnia. Peacock's Bromides does not compel sleep, like hypnotics, but by allaying the existing nervous excitement, whether due to mental strain, worry or anxiety, it promotes sleep in a normal manner. Unlike the effects from hypnotics, the patients awakens refreshed, with a clear head, and does not suffer from unpleasant sequelæ the following day. The overstimulation of the cerebral functions from alcohol yields promptly to the soothing action of this preparation.

Tying Off Extremities for Heart Disease.

By tying off the extremities with rubber bandages, smaller amounts of ether or chloroform will be necessary for narcosis, since the area of circulation will be artificially reduced. J. Tormai has studied the effect of drugs in heart disease under these conditions, but finds that there is no advantage in ligating off the limbs as the congestion cannot be kept up long enough. The ligation itself is, however, recommended in cases of moderate decompensation without hyperemia since the action is very much the same as that of a venesection without the loss of blood. The ligation is best performed by means of rubber tubing and the degree of ligation is controlled by palpating the pulse or auscultating the vessels. All four limbs may thus be tied off 20 to 30 minutes daily for one or two weeks. It is necessary to watch the pati-

ents, as occasionally symptoms of cerebral anemia will appear. At times ecchymotic areas over the limbs will be observed, owing to rupture of capillaries. The immediate results are a slight increase in the pulse rate and an increase of the pulse amplitude. The best results are seen in congestion and dilatation of the right side of the heart and Rontgen plates will show that the heart-shadow may be reduced by 1 to 2 Cm. during the ligation. The right auricle may fully regain its tone so that renewed dilatation may not occur when the constriction is removed. The patients usually breathe much easier for some time after. The tubing should be removed slowly so that too much blood does not suddenly reach the heart. The best results were seen in affections of the mitral valve and in myodegeneration or idiopathic hypertrophy when there will be gradual improvement in the tachycardia, arrhythmia and hyposystole. Less is accomplished in the severer grades of decompensation and the presence of edema permits the use only of the arms. The good effects of the method in suitable cases are often evident in the appearance of a pronounced diuresis.—Berl. klin. Woch.

Bromism.

When Peacock's Bromides are given over a prolonged period, as is often necessary in epilepsy and nervous diseases, its advantages over commercial substitutes are unmistakable. While bromism cannot be absolutely prevented in patients having an idiosyncrasy toward bromides, it has been positively demonstrated that Peacock's Bromides can be given with greater freedom from untoward action, and that frequently the preparation can be employed to continue bromide treatment after the commercial bromides were necessarily discontinued. This severe trial is perhaps the most convincing evidence of its superiority.

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the semi-inspissated bile that, too fre-
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sensus of opinion is that it is a most trustworthy hepatic stimulant, when employed persistently in properly selected cases. Physiologically it may be described as a gradual vasomotor stimulant to the bile ducts, and many authorities contend that its use will improve portal circulation and strengthen the lymphatics. Dr. Geo. Covert has aptly referred to it as a "bile persuader," and indeed this describes its action in a nutshell.

Infantile Diarrhoea.

For the relief of vomiting the author recommends lime water, milk of magnesia, a mustard plaster over the epigastrium, a few doses of ingluvin or calomel, or the subcutaneous injection of 1-1000 grain of morphine for a child of six months, or 1-50 grain of morphine and 1-600 grain of atropine for a year-old child, repeated in an hour. Washing out the stomach is also valuable.

For the control of purging, astringents are of little value in the severe cases. Should purging continue after the temperature has fallen to nearly normal, bismuth, aromatic powder of chalk, cinnamon, tannin, and others may be used. During the acute phase the author always gives drugs which tend to overcome the septic condition in the alimentary tract, *e.g.*, calomel, $\frac{1}{6}$ grain, powdered ipecac, $\frac{1}{6}$ grain, every two or three hours; or resorcin, 2 grains, tr. opii, $\frac{1}{2}$ minim, tr. cardamomi co., 5 minims, every two hours. Salol, $\frac{1}{2}$ grain for a child of six months, and 2 grains for a year-old child, and betanaphthol, $\frac{1}{4}$ grain every two hours, are useful.

To the depression in these cases the author opposes brandy, champagne, musk, camphor, or ether. If these are vomited, similar remedies should be given subcutaneously—*e.g.*, $\frac{3}{4}$ minim of liquor strychninae [1 per cent.] and 5 minims of ether every hour. A mustard plaster over the cardiac region is useful. The subcutaneous injection of $\frac{1}{2}$ a pint of normal saline solution into the buttocks or abdominal wall is valuable; it must, however, be performed very slowly, the fluid being allowed to find its way into the subcutaneous tissue by gravity rather than by pressure.

The dietetic treatment is described by the author as follows: Breast-fed children should be kept from the breast as long as vomiting occurs. They may be fed with a little albumin-water, barley-water, or whey, with stimulants, if desirable. After twenty-four hours' rest of the stomach it is usually safe to resume breast-feeding gradually, at first allowing the child to suck for only two or three minutes at a time, by which means he will get one-fifth to one-quarter the usual amount of milk. He should be fed with albumin water, whey, or barley-water, with a little meat-juice, every two hours, until a considerable progress toward recovery is made.

In the case of artificially fed children, the ordinary foods should be stopped until vomiting ceases, usually giving only a little barley-water or plain boiled water. When this is retained begin to feed cautiously with egg-albumin and lemon water, whey, white-wine whey, buttermilk, chicken, or veal broth, a teaspoonful every quarter-hour. We are cautioned against the use of meat extracts because of their tendency to increase the diarrhoea; but there are cases where the stimulating effect of creatin is valuable, and where the child does not react with egg-albumin or whey the author does not object to the use of broths, Valentine's meat juice, bovine, etc. Albumin-water is insipid, but a few drops of meat extract will improve the flavor and give to it stimulating properties which are lacking. Children four or five months old may have a little panopepton or beef-jelly; from this age up they may have starch emulsion (arrowroot being preferable) and white of egg, which assists in checking protein decomposition and persistent diarrhoea.

As soon as the acute stage passes off, one may give dextrinized farinaceous foods, with barley-water and whey, or a little cream. Whey and cream mixtures are very useful; egg mixtures are especially valuable, and koumiss or fermented milk can be given. As the diarrhoea yields one must consider, if the food has been at fault—excess of fat, malted foods, excess of casein,—how to correct the error.—Tibbles, Lancet.

"the therapy of heat is as old as the art of healing.

Its mode of application has improved with the progress of medical science.

Any form of treatment which survives for so many centuries must perforce be rational and valuable.

The profession, realizing the therapeutic value of heat has chiefly considered its most effective and scientific form of application in conditions which call for its use.

Weighing, carefully, each and every method which has been suggested, the inevitable conclusion was in favor of hot moist heat.

Antiphlogistine, the original cataplastic dressing for applying hot moist heat, is so far removed from the ordinary carelessly and unscientifically compounded dressing that the medical profession has by preference extensively favored its employment.

It retains the heat; is hygroscopic; lowers arterial tension; relieves venous engorgement and thus reduces inflammation wherever situated."

Salvarsan.

From a careful study of over 100 cases of "neurorecurrence" succeeding the use of salvarsan, witnessed by various observers, the author is inclined to believe with Ehrlich that the symptoms are not due to a toxic action of the drug, but are manifestations of a syphilitic process set up in nerves confined in narrow bony canals by spirochetes left undestroyed by the salvarsan injection. Analysis of the cases showed that neurorecurrences were most apt to occur in cases treated with salvarsan at the beginning of the second stage, in cases with extragenital chancres (especially when situated in the head), and in cases where severe headache had been present before the injection. Patients showing these predisposing factors, the author thinks, should not be treated with salvarsan, or, at least, the dangers of such treatment should be fully explained to the subject beforehand. All patients receiving their first injection of salvarsan should be enjoined to report at once to the physician should such symptoms as vertigo, tinnitus, or visual disturbance appear. In this event an intensive antiluetic treatment should be instituted, even in the presence of a negative Wassermann reaction. The author comments on the marked efficiency of salvarsan, used intravenously, in all beginning nervous disturbances in syphilis. He advocates dealing energetically with syphilis in general, recommending an intravenous injection of salvarsan, followed by a vigorous course of mercurial treatment, and this in turn by a second intravenous injection of salvarsan. The frequency of serious involvement of the nervous system in syphilis would, if this were done, be markedly diminished.—Benario, *Munchener medizinische Wochenschrift*.

Saline Injections in Sciatica.

The author adds 8 new cases of sciatica treated by this method to 4 cases previously reported. All of the former series had been cured by the injections. In the present series 4 were cured, 2 showed improvement but were lost sight of, 1 received one injection but did not return, and 1, after slight improvement, became definitely worse.

The injections are made at the sciatic foramen or at the gluteal fold, according as pressure causes greater pain at one point or the other. To find the foramen, the author draws imaginary straight lines from the posterior superior spine to the tip of the great trochanter and the middle of the ischial tuberosity, bisects the angle contained by these lines, and measures two and one-half inches along the bisecting line. At the gluteal fold the nerve lies midway

between the trochanter and the tuberosity. To ascertain whether the needle has penetrated into the nerve, the plunger of the syringe is gently pressed so as to expel a few drops of the solution. If the needle is in the nerve the patient experiences a sensation as if something were trickling down within the leg to a variable distance.—Hay, *Glasgow Medical Journal*.

Nevada State Board Examination Questions.

ANATOMY.

1. Locate Peyer's patches or glands. Of what are they composed?
2. What muscle closes the lips?
3. Name the seven openings of the pharynx.
4. Name the duct or canal of the pancreas.
5. What is the action of the cremaster muscle?
6. Where is the coracoid process? Of what bone is it a part?
7. Describe the diaphragm; name its openings and what passes through them.
8. Give origin, termination, and division of the large intestine.
- 9-10. Name the cartilages of the larynx, the single ones and the pairs.

PHYSIOLOGY.

1. Give the average number of red corpuscles per c.mm. in the human blood. (a) What is the function of red corpuscles, and upon the presence of what substance does that function depend?
2. Give approximate weight of blood to weight of human body.
3. What secretion contains a free acid?
4. What are the principal functions of the medulla oblongata?
5. What do you know about the circulation of the lymph?
6. What is the general physiological importance of bile?
7. What is the final fate of fat in the tissues?
8. Where is urea formed in the body?
9. What percentage of urea does normal urine contain?
10. Give the structural changes in the uterus during menstruation. (a) Upon what organs does the periodicity of these phenomena depend?

MATERIA MEDICA AND THERAPEUTICS.

1. Give six methods by which medicines are administered.
2. Give general principles governing the dose as to sex, age, weight. Give exceptions to the rule.
3. Give rules for converting apothecaries into metric weights and measures; metric into apothecaries.

Fellows_Syrupus Hypophosphitum.

Maxima cum cura commixtus semperque idem.

Compositio prima ante alias omnis.

Reject < Worthless Substitutes,
Preparations "Just as Good."

4. Give rule as to time and frequency of administration of remedies.
5. Give general rules for dosage of tincture; fluid and solid extracts.
6. Give three methods of action by which a drug may slow the heart action. Three by which it may quicken the heart action.
7. What is a specific? What is bromism? What is iodism?
8. Describe the difference of action of a saline and a vegetable cathartic.
9. Give the probable course of a dose of iron. What quantity is absorbed daily?
10. What is aconite? Describe its physiological action.

CHEMISTRY AND TOXICOLOGY.

1. Name the abnormal constituents of urine.
2. With what class of drugs are the heavy metals incompatible?
4. Define a chemical compound; a mixture. Give examples.
4. What are the constituents of pure air? Note changes that take place in overcrowded room. Give test for excess of carbonic oxide.
5. Where and in what form is salol absorbed? How eliminated?
6. Give symptoms of poisoning by coal tar antipyretics.
7. Give symptoms of chloral poisoning. What commonly used proprietary articles may produce chloral poisoning?
8. Give symptoms of acute and chronic arsenical poisoning.
9. Describe a case of phenol poisoning. Give danger signal when used in medicinal doses or locally.
10. What are the symptoms of the cumulative effect of digitalis?

BACTERIOLOGY.

1. Give the principles of the methods of examining and staining for bacteria.
2. Given a specimen of sputum describe the steps taken to find the presence or absence of the tubercle bacillus.
3. Describe the preparation of and the varieties of culture media.
4. What is a bacterial vaccine, and how is it made?
5. How do bacteria multiply?
6. Differentiate between the *B. coli* communis and *B. typhosus*.
7. How would you obtain a culture from a case of diphtheria, and describe method used in staining?
8. Give in detail the method you would use to control an epidemic of scarlet fever.
9. What microorganisms are most commonly associated with suppuration?
10. Describe the *Bacillus anthracis*.

PATHOLOGY.

1. Describe the steps necessary to mount

- a specimen for pathological examination.
2. Describe the appearance, under the microscope, of a healed tubercle.
3. Differentiate microscopically between carcinoma and sarcoma.
4. Give the pathology of myxedema.
5. Give the pathology of syringomyelia.
6. Give the pathology of scurvy.
7. Describe the process of hyaline degeneration; fatty degeneration.
8. Describe the conditions of the intestinal tract during an attack of summer diarrhea.
9. What are local infections?
10. Define anemia, hyperemia, immunity.

PRACTICE OF MEDICINE.

1. Give the symptoms and treatment of scintilla.
2. What is chlorosis, and how should it be treated?
3. Give the symptoms and treatment of cirrhosis of the liver.
4. Give the symptoms, diagnosis, and treatment of influenza.
5. Give the etiology, symptoms and treatment of acute peritonitis.
6. Define vocal fremitus, and state its significance in pulmonary disease.
7. Define bronchiectasis, and give symptomatology and treatment.
8. Differentiate a hemic murmur from a murmur of organic disease.
9. What is acute ascending paralysis, its etiology, symptoms, and treatment?
10. Poisoning by what drug would be indicated by the following symptoms: Flushed face, thirst, dry fauces, double vision, dilated pupile, giddiness, delirium, and stupor? What treatment should be employed?

OBSTETRICS.

1. How would you distinguish a primiparous from a multiparous woman?
2. Of what use is the "bag of waters?" When would you rupture it?
3. What is the hour-glass contraction? How would you overcome it to remove the placenta?
4. What is meant by "prolapsus of the funis?" What are the dangers, and how would you treat it?
5. What means would you employ to prevent laceration of the perineum when the head is well down and the expulsive pains strong?
6. Give symptoms of pregnancy and their relative importance.
7. Name the external and internal female organs of generation.
8. Give cause and treatment of flatulent distention of the abdomen following labor.
9. What do you understand by a "dry labor," and what disadvantages may result from it?

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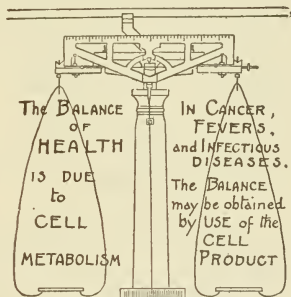
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10. How long after the child is born would you wait for the placenta to pass?

SURGERY.

1. Give as many of the causes as you know of for delayed union or non-union of the fractures. (a) Give a method of operation for un-united fractures.

2. Describe your operation for the radical cure of inguinal hernia.

3. What is a Colles' fracture?

4. Give diagnostic signs of fracture of neck of the femur.

5. Give the symptoms of abscess of cerebrum.

6. Name and describe two operations for the removal of hemorrhoids.

7. Give surgical treatment for volvulus.

8. Name and describe two methods for the removal of vesical calculus.

9. Symptoms and radical treatment for gastric ulcer.

10. Etiology and treatment of lymphangitis.

GENITOURINARY SURGERY AND DERMATOLOGY.

1. Differentiate uremic coma.

2. How would you treat a case of renal colic?

3. What are the symptoms and treatment of chronic urethritis?

4. What are the causes, symptoms, and treatment of neuralgia of the testicle?

5. What is the predisposing cause and treatment of epithelioma of the scrotum?

6. What is lepra?

7. What is erythema hyperæmicum?

8. What are the causes and treatment of a carbuncle?

9. Describe the salvarsan treatment for syphilis.

10. Differentially diagnose tinea tonsurans from alopecia areata.

Examination Questions of the Ohio State Medical Board.

ANATOMY.

1. How and where is the clavicle attached to the scapula?

2. What are the different kinds of motion of the elbow joint, and name the bones entering into its formation?

3. Name the ligaments of the hip joint.

4. Name the muscles that flex the thigh, also the leg.

5. Give the course and subdivisions of the subclavian artery.

6. Name the three divisions of the axillary artery.

7. Name the superficial veins at the bend of the elbow.

8. Give shape, location, dimensions and capacity of the stomach.

9. What are the divisions of the trifacial nerve? Name the branches of the third division.

10. Give the boundaries of the popliteal space.

PHYSIOLOGY.

1. What are the properties of protoplasm? What is its relation to nutrition?

2. What are the functions of organized cells?

3. Describe the white blood cells. What conditions affect their relative number, within physiological limits?

4. What salts affect the action of the heart, and how?

5. What is the principal source of heat in the body.

6. What part of digestion takes place in the stomach?

7. What kind of food does the secretion of the liver assist in digesting? What other office has it?

8. Describe the portal circulation.

9. Describe the motor area of the brain.

10. Give the location of the center of vision. How is this determined?

DERMATOLOGY, SYPHILOLOGY AND DISEASES OF THE EYE, EAR, NOSE AND THROAT.

1. What is tinea trichophytina? Mention its principal varieties and give treatment.

2. Describe psoriasis. How is it differentiated from squamous eczema?

3. Describe acute eczema—its difference from erysipelas.

4. What is meant by the initial lesion of syphilis?

5. Describe mucous patches.

6. Define astigmatism. Mention its causes, symptoms and the means to improve the vision with lenses.

7. Describe iritis. Mention its varieties, causes and treatment.

8. Describe acute catarrhal laryngitis; give treatment.

9. Describe otitis media purulenta. What dangers may result?

10. What are the causes of nasal hemorrhage, and how can it be stopped?

OBSTETRICS.

1. When the cord is around the child's neck, what serious results may occur? How obviate?

2. How would you determine the death of the fetus in utero?

3. What symptoms would indicate concealed hemorrhage?

4. Name the different displacements of the uterus and outline general treatment.

5. Give symptoms and treatment of cystitis.

6. Give symptoms and treatment of pla-

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centa previa before term and at full term.

7. Name the diagnostic points of the fetal head and state their uses.

8. How would you manage a breech presentation, and what is the most dangerous complication?

9. Give symptoms and treatment of puerperal eclampsia.

10. Describe the formation of the placenta and decidua and give its use or function.

PRACTICE.

1. How would you manage and treat a case of diabetes mellitus?

2. Give the causes, symptoms and treatment of acute Bright's disease.

3. Give the pathology, symptomatology and treatment of poliomyelitis.

4. Give pathology, symptoms and treatment of pericarditis.

5. Define rheumatic fever; give symptoms, complications and treatment.

6. Give etiology, symptoms and treatment of erysipelas.

7. Give diagnosis and prognosis of laryngeal tuberculosis.

8. Give diagnosis of aneurism of the descending aorta.

9. Give etiology and diagnosis of influenza.

10. Give pathology and diagnosis of cholera infantum. What hygienic precautions are essential to prevent it?

MATERIA MEDICA AND THERAPEUTICS (HOMEOPATHIC).

1. Give dose and indications for aconite.

2. For what is apocynum used, and what are its indications?

3. Give the indications for baptisia, and name some diseases in which it is useful.

4. Give specific indications for gelsemium and name some diseases in which it is useful.

5. What is the common name of *hydrastis canadensis*, and in what class of diseases is it most used?

6. Give indication and dose of *macrotys*.

7. For what class of cases is *pulsatilla* used? Give indications and dose.

8. From what plant is *rhus. tox.* obtained, and what are the indications for it?

9. What are the uses of *veratrum viride* and indications for it?

10. Discuss the dangers incident to the treatment by X-ray.

MATERIA MEDICA AND THERAPEUTICS (ECLECTIC).

1. Give dose and indications for aconite.

2. For what is apocynum used, and what are its indications?

3. Give the indications for baptisia, and name some diseases in which it is useful.

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7. For what class of cases is *pulsatilla* used? Give indications and dose.

8. From what plant is *rhus. tox.* obtained, and what are the indications for it?

9. What are the uses of *veratrum viride* and indications for it?

10. Discuss the dangers incident to the treatment by X-ray.

MATERIA MEDICA AND THERAPEUTICS (REGULAR).

1. Name three external antiseptic remedies. Give indications and uses.

2. Name the various preparations of aconite and give dose of each. State therapeutic uses.

3. Iodine. Name principal salts and preparations. Give dose of each and state therapeutic uses.

4. What are the uses of narcotics? Name the principal ones, giving the dose of each.

5. What preparations of mercury are used as cathartics? Give dose of each.

6. What drugs would you use in anemic conditions? Write two prescriptions including remedies recommended.

7. Potassium salts. Name the principal ones and give dose and use of each.

8. Why is atropine combined with morphine? Give dose of each.

9. What are the symptoms of opium poisoning? Give treatment. What class of people bear opium badly?

10. Discuss the dangers incident to the treatment by X ray.

DIAGNOSIS.

1. Describe reduplication of the heart sounds. What is its significance, and state in what diseases it may occur?

2. State diagnostic significance of mitral systolic murmurs.

3. Describe irregular pulse (arrhythmia) and state clinical significance of its varieties.

4. In what morbid conditions is dyspnea present?

5. What pathological alterations of the lungs cause a decreased resonance on percussion?

6. What diagnostic sign is furnished by diplopia?

7. In what pathological conditions is the liver generally found enlarged?

8. When is the knee jerk exaggerated, and in what affections does it occur?

9. Name abnormal constituents of the stools and state their pathological significance.

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J. W. Williams, M. D., 2214 East Broad Street, Richmond, Va.

1. In what diseases does hiccough occur, and what diagnostic value is derived therefrom?

PATHOLOGY.

1. What is the pathology of follicular tonsillitis?

2. What pathological changes take place in senility?

3. Give the pathology of catarrhal appendicitis.

4. What is the basis of the opsonin treatment, and describe the effect of an injection of bacterial vaccine?

5. Give the pathology of tabes dorsalis.

6. Name the paths of bacterial infection; the paths of extension.

7. Give the pathology of tuberculosis of the hip joint.

8. What is the difference between an antitoxin and a bacterial vaccine?

9. Give the pathological anatomy of catarrhal broncho-pneumonia.

10. What are some of the adulteration found in foods and how would you detect them?

SURGERY.

1. What is the latest method of treating tubercular sinuses?

2. What is hypodermoclysis? Give technique and formula for intravenous infusion, also the quantity you would use in an adult.

3. Give causes, symptoms and treatment of hip joint disease.

4. Describe the most feasible operation for empyema of the antrum of Highmore.

5. How would you treat internal hemorrhoids?

6. Diagnose an infective exudate in the pericardial sac. How would you proceed to give relief?

7. Ligate the internal carotid artery. Give indications for so doing. What precaution is necessary?

8. What is plastic surgery? Give an example.

9. How would you treat acute septic infection?

10. What are echinococcus cysts? Where most frequently located? What is the prognosis?

CHEMISTRY.

1. Name the constituents most frequently found in water which render it unfit for drinking purposes. Give test for each.

2. Name the albuminous bodies and give the source of each.

3. Name the principal inorganic acids. Give the properties and uses of one. Name the principal organic acids. Give their sources and properties and uses of one.

4. By what tests chemically applied would you determine whether a specimen of human

milk was up to the standard?

5. Give a reliable method for determining the quantity of hydrochloric acid in the gastric contents.

6. Give the chemical nature of phenol, its properties, poisonous effect and antidotes.

7. Classify poisons from a physiological basis.

8. What is alum chemically, and when may it be used to improve an impure water supply.

9. Mention three different processes by which carbon dioxide is generated in nature.

10. What is the chemical name of tartar emetic? Give its poisonous effects and antidote.

Danger Due to Substitution.

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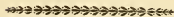
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This fraud, which was exposed at an action tried before the Supreme Court of Victoria at Melbourne, and others reported before in the medical literature, show that every physician should see that his patient gets exactly what he prescribes. No "just as good" allowed.

Presence of Gonococci in the Blood in Gonorrhea.

Filipo Lofaro shows that researches have been made to prove that gonorrheal arthritis is directly caused by the presence of the gonococcus in the joints. It also has been proven that the usual complications of gonorrhea are but new localizations of the germs. The author made a study of the presence of the germs in the circulating blood in 67 cases of acute and chronic nephritis. He demonstrated the presence of the germs in the blood in 58 per cent. of these cases. They were not present in the acute cases, but in the chronic cases, in which there was greater virulence of the germs or deeper lesions, the gonococcus was present. The author does not know how these germs penetrate from the urethra into the blood, but supposes that in more severe cases they crowd the lymphatics, and in this way get into the blood.—*Il Policlinico*.

SOUTHERN MEDICAL SOCIETIES



MISSISSIPPI VALLEY MED. ASSOCIATION.
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Louisville, Ky.
Treas. S. C. Stanton, M. D., Chicago, Ill.
Next Meeting Detroit, Mich., Sept, 13th-
14-15, 1910.

**SOUTHERN SURGICAL and GYNECOLOGICAL
ASSOCIATION.**

Annual Meeting at Washington, D. C.,
Dec, 19-21, 1911.
W. D. Haggard, M. D., Sec.,
Nashville, Tenn.
Rudolph Matas, Prest. New Orleans, La.

SOUTHERN MEDICAL ASSOCIATION.

Annual meeting at Hattiesburg, Miss.
Nov. 14-15-16, 1911.
Oscar Dowling, M. D., Sec. Shreveport, La.
Isadore Dyer, M. D., Pres.
New Orleans, La.

**TRI-STATE MEDICAL ASSOCIATION OF THE
CAROLINAS AND VIRGINIA.**

Annual Meeting at Columbia, S. C., Feb.
23-24, 1912.
Ralfe E. Hughes, M. D., Sec.,
Laurens, S. C.
J. Howell Way, M. D., Pres.
Waynesville, N. C.

**MEDICAL ASSOCIATION OF THE STATE OF
ALABAMA.**

Annual meeting at Birmingham, Ala.,
April, 19 1912. J. N. Baker, M. D., Sec., 602
S. Perry St., Montgomery, Ala.
L. C. Morris, M. D., Pres.
Birmingham, Ala.

MEDICAL ASSOCIATION OF THE SOUTHWEST.

Annual Meeting at Oklahoma City, Okla.
October, 1911.
F. H. Clark, M. D., Sec., El Reno, Texas.
M. L. Perry, M. D. Prest., Parsons, Kans.

FLORIDA MEDICAL ASSOCIATION.

Annual meeting at Tallahassee, Fla.,
May, 10, 1911.
J. D. Fernandez, M.D., Sec.,
Jacksonville, Fla.
James D. Love, M. D., Pres.,
Jacksonville, Fla.

MEDICAL ASSOCIATION OF GEORGIA.

Annual Meeting at Augusta Ga., April,
17-18-19 1912.
W. C. Lyle, M. D., Sec. Augusta, Ga.
W. L. Felts, M. D., Pres.,
Corrollton, Ga.

KENTUCKY STATE MEDICAL ASSOCIATION
Annual meeting at Paducok Ky., Oct.
1911.

Arthur T. McCormack, M. D., Sec.,
Bowling Green, Ky.
Jas. G. Carpenter, M. D. Prest., Stanford,
Ky.

LOUISIANA STATE MEDICAL SOCIETY.

Annual meeting at Shreveport, La.,
May, 30-31, June 1st, 1911.
Joseph D. Martin, M. D., Sec.,
141 Elk Place, New Orleans, La.
E. J. Garner, M. D., Pres.,
1641 First St., New Orleans, La.

MISSISSIPPI STATE MEDICAL ASSOCIATION.

Annual Meeting at Jackson, Miss, April 11,
1912.
E. F. Howard, M. D., Sec.,
Vicksburg, Miss.
D. J. Williams, M. D., Pres.,
Ellisville, Miss.

**MEDICAL SOCIETY OF THE STATE OF NORTH
CAROLINA.**

Next Annual meeting at Charlotte, N. C.,
June 1911.
C. M. Poole, M. D., Pres.,
Salisbury, N. C.
D. A. Stanton, M. D., Sec.,
High Point, N. C.

NEW MEXICO MEDICAL SOCIETY.

Annual Meeting at Las Vegas, N. M.,
(date not yet decided.) 1911.
Dr. R. C. McBride, D. Las Cruces N. M.
Secretary.
F. B. Test, M.D., Prest, E. Las Vegas, N. M.

SOUTH CAROLINA MEDICAL ASSOCIATION.

Annual meeting at Columbia, S. C.,
April 20, 1912.
Edward A. Hines, M. D., Sec.,
Seneca, S. C.
J. W. Jervey, M. D., Pres.
Greenville, S. C.

TENNESSEE STATE MEDICAL ASSOCIATION.

Annual Meeting at Nashville, Tenn.,
June 11, 1911.
Geo. H. Price, M. D., Sec.,
146 8th Ave., Nashville, Tenn.
John A. Witherspoon, M. D., Pres.,
Nashville, Tenn.

MEDICAL SOCIETY OF VIRGINIA.

Annual Meeting at Richmond, Va. Oct. 24-
27, 1911.
P. A. Irving, M. D., Sec.,
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Committee on Obituaries: Drs. A. W. Knox, Raleigh, E. G. Moore, Elm City, M. L. Stearns, Asheville.

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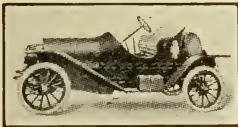
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The Charlotte Medical Journal

VOL. LXIV

CHARLOTTE, N. C., SEPTEMBER, 1911.

No. 3

Results in Treatment of Gastric Ulcer.*

By W. O. Nisbet, A.B., M.D., Charlotte, N. C.

The object of this paper is to study briefly the results of treatment of 78 cases of gastric ulcer, which have come under my observation during the past ten years.

I have divided this series here reported into two groups:

First.—The acute mucous or peptic ulcer or so-called "medical" ulcer.

Second.—The chronic indurated or callous ulcer, include 60-80 per cent. of all ulcers.

The term medical ulcer if applied exclusively to the acute is not correct, for both types of ulcers are amenable to medical treatment.

In discussing these cases I shall speak of clinical cures. This is an expression made use of by a number of observers and means that at the time of discharge from treatment the ulcer is to all appearances cured; later developments may show by return of symptoms that the healing of the ulcer has not taken place. Hence the rule has been generally accepted by recent observers that no case of gastric ulcer should be reported as cured unless it can be traced and found to show no symptoms of relapse for at least two years.

Of the 78 cases here reported, 20 were of the acute type and 58 of the chronic type.

Of the 20 acute cases, 18 were dismissed at the end of treatment as clinically cured and at the end of two years fourteen cases had shown no symptoms of relapse.

Of this twenty cases there were two deaths and both due to perforation, and when seen in consultation one was in the terminal stage and operation was not advisable, and in the other case the family physician could not get assent to operation.

Of the 18 acute cases treated, all were given the usual bismuth cure.

Chronic Cases.

Of the 58 cases of chronic ulcer, 37 were given the bismuth treatment and 33 were discharged as clinical cures, 10 showed symptoms of relapse within two years and there was one death from perforation, assent to operation being refused; the percentage of cures at the end of two years is 60 per cent. counting untraced cases as relapses.

14 of the 58 chronic cases were given the combined oil and bismuth treatment and 14 were dismissed as clinical cures; 5 showed

recurrence within two years; percentage remaining cured at the end of two years 61, counting untraced cases as relapses.

Five of the medically uncured cases consented to operation and were placed in the hands of surgeons, who did posterior gastro-enterostomy in four, with one death, while in the fifth case laparotomy was done, the edges of the ulcer inverted, serous surfaces brought together with Lemberts sutures and reinforced with a covering of omentum. This patient made a good recovery. The percentage of cure for gastro enterostomy is 80.

Of the 78 cases 44 gave the history of having at some time had hemorrhage while 11 of the remaining cases were positive to the test for occult blood. There are, therefore, 23 cases which gave no history of visible or occult hemorrhage and this impresses the fact that the vomiting of blood does not occur in a large per cent. of cases, and that we must learn to recognize gastric ulcer in the absence of this symptom.

It is also to be noted that of the 19 uncured and relapsing cases only five were brought to operation, although surgical interference was advised in each instance.

Perforation occurred in three cases of the entire series; one in a child of eight years and two in adults. Of the two adults, in one perforation had taken place before admission and operation was refused, and in the other cases perforation occurred three days after admission. Laparotomy and inversion of the ulcer was done with recovery.

Notes as to Medical Treatment.

In all cases of active hemorrhage rectal feeding was given for ten days. In uncomplicated cases 6-10 ounces of plain or peptonized milk were given every two hours during the day and every three hours during the night.

It is often necessary to add lime water, citrate of soda or Vichy to neutralize the gastric acidity and to prevent coagulation in large masses.

After the first week in acute cases, whipped whites of eggs and strained cereal gruels may be permitted. In many chronic cases these may be permitted from the beginning, along with beef juice or scraped beef. It is to be remembered that often owing to their excitant action on the gastric secretion, pain and discomfort are excited by the feeding of meats in certain cases.

The bismuth treatment consisted in the

*Read before the North Carolina Medical Society, Charlotte, N. C., June 20-22, 1911.

administration of 20-40 grs. of subnitrate of bismuth three times daily before food.

The bismuth and oil treatment consisted in giving the bismuth as just mentioned and in addition one-half to two ounces of olive oil twice daily.

During the past year I have treated a number of cases simply by rest in bed and diet, and am convinced that in many cases this is all that is necessary.

The Physician's Silent Influence.*

By Dr. J. M. Templeton, Cary, N. C.

A stranger reading the glowing descriptions of the health resorts that dot this splendid old Commonwealth of ours, stretching as they do from the ozone laden breezes of Morehead and balsamic air of Pinehurst, to where the salubrious mountain atmosphere circles about the sun-kissed peaks of Roan and Clingman and Mitchell, (to say nothing of Vademecum Spring and Mrs. Joe Person's Remedy), might well conclude that here he had found a land of perpetual health, a land where there were no bruises to bind up, no wounds to be healed, where death never came, and it would be a waste of time to look for a Doctor. Your presence here tonight, coming as you do, "from the sandshining shores of Hatteras and from where the blue peaks of the Alleghanies look down into the chambers of the setting sun," is proof "strong as Holy Writ" that such a conclusion would be erroneous, for where you "pill peddlers" gather, where you "sawbones" assemble, there you will find aches and pains, sufferings and sorrows, coffins and graveyards and all the solemn paraphernalia of death. Not that you cause these things, but where they are your mission lies and you are found at the post of duty. A mission that is filled with trials and tribulations, successes and failures, triumphs and defeats, censure and applause in about equal measure. It is a life-calling rich in rivalries and jealousies and heart-burnings, and sometimes bitterness and hatreds, because in your "battle for bread" you have to contend with osteopaths and homeopaths, and compete with herb doctors and old women and witches and rainmakers, and sometimes "patience ceaseth to be a virtue."

You rise up early and sit up late that you may heal the tramp and minister to the dead-beat for "I thank yer, Doc, till yer better paid," and "often, oh, how often" with the thank omitted. You spend your money for "that which is not bread and your labor for that which satisfieth not,"

in that you have among your patrons those who seem to think the honor and glory of being spoken of in mellifluous accents as "our family physician" ample compensation for all the time and trouble you may give them and their families. Yet expect you out of that compensation to put up very liberally in good hard dollars, "current with the merchant," for the church, the orphan asylum and every other form of charity under heaven, including your dog and horse and wife and babies. Despite all these drawbacks and obstacles, handicaps and hindrances, I believe there is a place in the social economy of today for the honest, upright doctor, and in proportion to number no other class has more influence, or is more potent in "shaping the destiny of States and Empires" than that composed of the modest, unassuming medical men of a country. The influence they exert is, however, seen or felt, rather than heard; it is a silent influence. Yet it is the silent influences that are mightiest in solving the problems of time and life, just as it is the silent influences in nature that work the most wondrous results. Thus we see silently bursting from the seed the bud, the leaf, the fragrant beautiful flower, then the "ripened grain and full ear in the sheaf." Reverberating thunder is harmless, impotent, the silent lightning shivers the mightiest oak. Silently from moisture comes the sparkling dewdrop, and heat pressure upon carbon gives us the dazzling brilliance of the diamond. We see how all things are held together by atmospheric pressure and the laws of gravitation, yet with such exactness and precision that world upon world, and planetary system upon planetary system, whirls round and about us at incredible speed, many of them appearing and disappearing after cycles of hundreds, yea, thousands of years, yet all moving in perfect "silent harmony." We see how silent influences ascend all heights, know no bounds of depths, span chasms, pervade all space and permeate all nature. I remember standing once near the Straits of Fuca, looking westward over the mighty Pacific, I saw it swell and recede from shore to apparent sky as far as the eye could reach; far to Southward Mr. Ranier lifted his mantle of eternal snow; behind me the placid waters of Puget Sound shimmered in the afternoon sun, while the rugged mountains, cleft here and there by pleasant valleys, crowded each other to the waters edge. As the eye rested upon the sublimity and grandeur of this scene the mind reverted to prehistoric time, when from deep down in earth's bosom, silent influences upheaved strata upon strata of solid rock, not only all over our own great country but the whole earth. Then

*Annual Oration delivered before the 58th annual meeting of the North Carolina Medical Society, June 20-22, 1911.

as the waters receded the disintegration of mountain and hill filled up and fertilized valley and plain—made possible the sustenance of teeming millions and a place for this magnificent civilization of ours.

Even as silent influences shaped and fashioned the physical world, so I believe God worketh thus has been gathering here under the shining folds of Old Glory all that is brightest and best in all the civilizations of earth, and is blending it into something grander and more beautiful and enduring than the world has ever known. You may read our high destiny in the richness of our agricultural products, so vast, so varied, so abundant we harvest fabulous wealth every month in the year; or the output of our factories so enormous it taxes the transportation facilities of the continent; or our commerce, which borne by steam and sail, touches every port of earth. In education, in invention, in literature, in the arts and sciences, in all that goes to make up progress and advancement we are taking our place in the "foremost files of time."

In this steady forward movement of our country and the world, the silent influence of the medical man has made its impress all along the ages, and unheralded and unsung worked out problems that have modified that have modified the whole current of human life, and helped to carry the race to higher and grander planes of civilization, though often overshadowed and obscured by matters trivial in comparison. Thus historians have made the Piedmont Campaign of Francis I immortal, by saving from the wreck of his inglorious defeat at Pavia the epigrammatic message to his cruel, Medicean, queen mother that "All is lost save honor." Yet upon that campaign one of his modest surgeons, Ambrose Pare, was working out a method of controlling hemorrhage by ligature that makes possible much of the wondrous surgery of today, and the influence of his work will go on down a heritage to coming generations as long as red blood flows.

The darkest days of the American Revolution were perhaps in the winter of '76 and '77, when England was massing her power to crush the widespread rebellion in her colonies over the Sea. History is replete with the deeds of the soldier, statesman, diplomatists, lawyers and financiers of that period. The two events that did most to strengthen freedom's cause and keep hope alive in patriot bosoms were the battles of Trenton and Princeton. Only scholars know it was a Scotch surgeon, Hugh Mercer, who had dressed wounds on Culloden's fateful field, that led the column of assault at Trenton, and it was he who at a war

council there a few days later suggested the daring night attack on Princeton. He was mortally wounded by a clubbed musket, in the close hand to hand fighting there the next morning, while endeavoring to rally his column which had been shattered and repulsed by a bayonet charge of British Veterans. One of the brightest names in all the annals of the Southland is that of Stonewall Jackson. A very genius of battle he, whose famous "foot Cavalry" made the Southern armies almost invincible while he lived. For successful strategy and during his campaign in the Valley has never been surpassed, if equalled, but when the battles of Cross Keys and Frond Royal and Port Republic are forgotten, Jackson's name will live in the fact that on this campaign he issued an order that all surgeons captured in the discharge of duty should be paroled and treated as non-combatants. As Southerners we glory in the fact that it was a Confederate General who, for the first time in the world's history of war, adopted a policy so beneficent and humane. As physicians we know that order was issued through the silent influence of Jackson's surgeon in chief, that courtly gentleman and peerless surgeon, Hunter McGuire.

A few years ago the world was startled by the prowess and courage of the little brown men, "Yankees of the Orient" they've been called, as, emerging from their sea girt home, they swept like a tornado up the Manchurian Peninsula. Before their resistless onset "Cossack and Russian reeled from the sabre stroke" and their all conquering legions scattered the proudest regiments of Muscovy as autumn winds the brown leaves of the forest. Over and through the impregnable defenses of Port Arthur they swarmed, and Sha river and Lio-Yang and Mukden became historic like Waterloo, and Balaclava, and Gettysburg, and Oyama, and Nogi, and Kuroki, went to take a place in war's Valhalla beside Napoleon and Wellington and Washington and Lee and Grant.

But when the "Lust of battle" past and we came to study this mighty conflict philosophically and sanely, we found there was much more to learn from it than the effect of concentrated gun fire—much more to admire than the courage that rushed 203 Metre hill, or burst through the barbed wire defences of Fort Ki-Kwan.

It was the wonderful scientific work of the Japanese Medical Staff, that almost unmoted, kept this vast array in health and strength, through all these strenuous campaigns. Pushing ahead of the marching columns, they analyzed the water, placarding it as healthy, or unhealthy, for the soldiers' protection. Rigidly inspecting his

food, and enforcing the details of scientific hygiene and sanitation, they for the first time in the world's history reduced the death rate from disease below that from the missiles of war.

This, too, despite the fact that they crowded up to the firing line and with "first aid packages" staunched hemorrhage and dressed wounds, and in the great battle of the Sea of Japan ordered every "Jack Tar" to bathe and don sterile linen, as the ships cleared for action, yet with all these efforts to conserve life the death rate from shot and shell broke the world's record, and was greater than that from disease. It is not alone 'mid war's alarms the silent influence of our profession is felt. Doubtless some of you are already planning to view from the Golden Gate the celebration of the opening of the Isthmian Canal, that gigantic work of engineering, that will place our country on the highway between the Occident and the Orient, convert our Mexico Gulf into a Mediterranean of the West, on whose shores will arise kingdoms greater than Greece, empires mightier than Rome, because to their highest stage of development will be added all the marvelous progress and wondrous achievement of our own matchless civilization.

Stupendous as are such works as Culebra Cut and the Gatun Dam, they were only made possible after the quiet labor of Dr. Gorgas and his colleagues had transformed the "graveyard of the white man" into the wholesome, all the year round, health and pleasure resort of the Panama of today. Just here we might extend our theme to Cuba regenerated, to Porto Rica, the Philippines, to the work among the fisherfolk of Labrador, to the struggle with Trypano-Somiasis (the sleeping sickness) of the Dark Continent, or the redemption of our own beautiful Southland from the ravages of Hookworm. What a brilliant array of silent workers pass before the mind's eye at the mention of these names. Dr. David Livingston, Wilfred T. Grenfell, Joseph Lazear, Charles Wardell Stiles and a host of others. These are the striking instances of this silent influence that towers above the common level, as Everest above the mighty Himalayas, and I pass on to point you for a moment to that wider sphere, where the Budds and Strudwicks, and Hines's, and O'Hagans, and Warrens, and Brevards, with myraids of unknown and unnamed associates are exerting the silent influence that is so powerful in shaping the destiny of the race. Men who ride through the silent night, o'er winter's snow, mid summer's dust to cool the fevered brow of the pain racked child, to minister in the "Holy of Holies" of the home, when the

mother "feels for the first time her first born's breath;" or sit helplessly by when the last word is spoken, the last kiss imprinted and the life current is on the ebb tide. It was men of this type old Patrick Drumsheugh had in mind that bitter winter night in old Scotland, when under the "black firs with their icy burden" he prayed Almighty God—dinna be hard on Weelum McElluire for he's no been hard on anybody in Drumtochty—Be kind to him as he's been to us a' for forty years. We are a' sinners afore Thee, Forgive him what he's duae wrang and dinna cuist up to him. Mind the fouk he's helpit, the weemen and bairnes, and gie him a welcome home for he's sore needn't it after a' his work.

Those true to the type that inspire such prayers are always everywhere all round gentlemen. They realize that the key to the measure of a man is his thought, "as he thinketh so is he," hence their thoughts dwell not mid the mire and shine of earth, but are ever turned skyward, to things high and pure and clean and noble. No low, vulgar, unclean words pass the lips of such, they are foes to all that is venal, base or dishonorable. Temperate in all things, true to the marriage vow, they live, not alone for gold and the sordid things of life, but for truth and right and principle and "sweet charity." Be not deceived, some such there are in the world of medicine today, they are members of no particular school, or cult, or sect or creed, the product of no special soil or climate, no geographic or political division of earth can claim them as its own. I recall how on a Western trip I was impressed with the interest taken, and questions asked by, my better nineteenth, in regard to the boundary lines separating the various states in which we travelled. When we crossed the Ohio they said to her we were then upon the "Dark and bloody Ground" of old Kentucky; and when the Mississippi's turbid flood rolled behind us they told her the waving corn that emerald the landscape on either hand grew upon Missouri's soil; when we passed beyond the sheeny, shining, green waters of the Flat-head it was explained to her that we were then 'mid the fair fields of Idaho, and there stretched before us all that "golden country on the sweet Pacific's side." But the domain of scientific medicine knows no such limitations, recognizes no such boundary lines. The educated, gentlemanly physician is your true cosmopolite, it matters not whether he domicile beneath the lion crested ensign of George V, under the yellow dragon of the "Celestial Empire," or have his home shadowed by the starry flag of our own great republic.

His influence and sphere of action is

wider than any or all of these. It reaches out to wherever pain is to be allayed, suffering assuaged, or health guarded; it is a battle with the ghastly "King of Terrors" who garners his harvests alike from the icy fields of the North and the lands of everlasting Summer.

CEDAR FALLS, N. C., Aug. 21, 1911.
Edw'd. C. Register, M. D.,
Charlotte, N. C.,

Dear Sir:—

I am in receipt of your esteemed favor of the 17th inst., in which you request that I report my observation on certain cases of Infantile Paralysis (Cerebrospinal Fever). In response beg to state that seven cases of this malady have come under my care this summer since June 14th.

Case No. 1.—Boy 5 years of age. Saw him first on the 14th of June with fever 102½, very nervous and restless; gave calomel and ipecac tablets every half hour for four doses each day; gave Salcyl. Soda 2 and 3—Sodium Bromide gr. 5 every four hours; second day fever 103; no improvement; continued calomel and ipecac for purgative effect; enlarged the dose of Salcyl. Soda to 5 gr. every two hours until marked diaphoresis was had, which developed after the second dose. The Salcyl. Soda and Bromide was continued for five days at intervals of two to four hours, during which time fever and nervous symptoms gradually disappeared and the patient began to call for nourishment and continued to be hearty for several weeks with no ability to even turn himself in bed or extend his lower limbs. After four weeks we noticed that this patient would extend his left leg but kept the right leg flexed for two weeks longer, at which time we noticed that he began to extend this limb also, and at this time (seven weeks from onset of attack) the boy is beginning to try to walk, but makes a poor show with his right limb.

In concluding this case I should state that this patient has been kept on triple arsenate with buctia ever since fever was gone.

Case No. 2.—Girl 4 years of age. Developed same trouble two or three days later with similar symptoms as Case No. 1; treatment just the same, except lighter dosage; fever lasted six days; appetite O.K. after fever subsided; marked paralysis in right leg lasting about three weeks. The patient is now walking about but shows slight weakness in right leg, but appears to be gaining strength and I hope for her ultimate recovery.

Case No. 3.—Little boy aged 5 years. Developed same trouble with same symptoms as Cases No. 1 and 2, but had been

sick several days before I saw him. There was marked depression of the nerve energy; the fever did not abate; paralysis of upper limbs complete; died on the third day after my first visit.

Case No. 4.—Boy 4 years of age. Developed fever on July 3rd. I was called to see patient on July 4th. Fever ran the same course as Case No. 1; very nervous and restless; some nausea and vomiting first few days; Cheyne Stokes breathing developed after eight days; patient now begins to try to move himself about but right leg is very weak and will fall down very frequently; one eye (the left) is cross since getting up and he goes with it closed most all the time. The treatment in this case was the same as in Case No. 1.

I had the pleasure of consulting Dr. H. B. Hiatt in this case, and he confirmed my diagnosis of cerebrospinal fever.

Case No. 4.—Boy aged 14 months. Developed symptoms as described in Case No. 1; treatment about the same except size of dosage. After being sick eleven days the little fellow left for a more congenial clime.

Cases No. 6 and 7 developed same trouble and were treated similarly. One died. The other lived.

In closing this brief account of these seven cases I beg to state that my time is too short to give exact data of all the cases. I also desire to state that my opinion is that what success I have had in these seven cases has been due to the liberal use of Salcyl. Soda—perhaps the bromide of soda and the calomel and ipecac deserve some credit.

Summary.—One case cured or recovered. Three cases progressing favorably. Three cases dead.

With best regards I am

Yours truly,
A. H. REDDING, M. D.

Malaria in Charlotte.

By W. Allan, M. D., Charlotte, N. C.

In any study of the fevers of this locality it will first be necessary to clear the ground by defining clearly the term "malaria."

All the asexual forms of the malarial organisms manifest themselves clinically by the production of pyrexia. So that the clinical diagnosis of malaria when there is no disturbance of the body temperature would seem to be without any pathological justification; and inasmuch as the sexual forms of the malarial organisms produce no symptoms, a clinical diagnosis of gamete carriers is impossible. Osler's statement that, "A patient may dwell for years in an infected region without having paroxysms, or indeed fever of any sort, and he may

then come under observation for the first time with anemia and a greatly enlarged spleen and liver" does not take into account tropical splenomegaly, or kala-azar, as is pointed out by Craig. In Osler's *Modern Medicine* there is no description of chronic malaria. In his 400-page treatise on "The Malarial Fevers" Craig deals with the subject of chronic malaria or malarial cachexia in less than two pages (P. 256). The symptoms are an enlarged spleen and a progressive anemia with its corollaries, anorexia, diarrhea, dyspnoea, emaciation, and nervous exhaustion. The enlarged spleen is not invariably present.

In my own experience an enlargement of the spleen has been uncommon; I have seen it in nine cases here—once in a negro woman who gave a positive Wassermann, in four cases of myeloid leukemia, and in four children who were having typical attacks of benign tertian malarial fever, and in whose blood the organism was easily demonstrated.

In the absence of enlargement of the spleen, we have anemia as the only clinical symptom of malarial cachexia. In examining over 200 blood slides during the past three years from non-febrile anemic cases I have never been able to demonstrate any form of any of the malarial parasites. In a community where probably one-fourth of the population are non-febrile, and anemic from hookworm, strongyloides, ameba, and other causes, the clinical diagnosis of malaria on the ground of anemia alone is sheer folly, and yet we repeatedly see this diagnosis made.

Any of the malarial fevers may be intermittent, remittent, or continuous. At the same time incipient tuberculosis, beginning typhoid, and amebic abscess of the liver may be accompanied by chills and show any of the three types of fever above mentioned, with a normal leucocyte count, so that a classification of our fevers according to the type of temperature curve is inaccurate, but in view of what follows we are free to admit that most of our tertian fevers are due to the plasmodium vivax.

I have recently seen a case of amebic abscess of the liver with irregular chills and fever, in which the chills and fever regularly disappeared on the exhibition of quinine, only to reappear when the drug was withdrawn. In one month during the early spring (too early for mosquitoes by the way) I had occasion to diagnose incipient tuberculosis in three cases that were taking quinine for chills. The diagnosis of malaria by the therapeutic test cannot be ignored, but it should have a very definite time limit of about 72 hours.

I have notes on nine cases of regularly

intermittent chills and fever. Five were seen during their first attack; in three the plasmodium vivax was demonstrated; blood from the other two could be obtained only immediately after a chill and was negative. In these two, however, there was no recurrence of fever after the first dose of quinine had been taken. One of the cases in which the organism was found, a white woman, aged 41, again had chills in June, 1911, and again the plasmodium vivax was demonstrated in the peripheral blood; in the absence of an enlarged spleen, or any gametes in the blood, I have been unable to determine whether this was a recurrence or a fresh infection.

I have seen four cases of recurrent malaria, all in white children; three had tertian fever, one quotidian. In all four the spleen was considerably below the costal margin and the blood contained plasmodium vivax—two generations in the case of quotidian fever.

Summary.

1. Up to the present time only benign tertian malarial fever—plasmodium vivax—has been reported from this county.

2. Whenever, from insufficient treatment, plasmodium vivax has not been eradicated but causes a recurrence after a few months—as not infrequently happens in children—then this recurrence presents the same clinical picture as the original attack, tertian or quotidian chills and fever, according as there are one or two generations of the organism present in the blood.

3. Chronic malaria (a-febrile) or malarial cachexia has yet to be demonstrated in Mecklenburg county.

References:

1. Osler, W., "Modern Medicine," Vol. 1, p. 415.
2. Craig, C. F., "The Malarial Fevers," p. 258.

The Significance of Hookworm Disease*

By C. S. Grayson, M. D., High Point, N. C.

Egyptian chlorosis was mentioned by the Egyptian writers three or four hundred years ago. Subsequently tunnel-workers and brick-workers were shown to suffer from the same disease. Soon the parasite was associated with the disease and was regarded as an important cause of tropical anemia. However, it was not until the interest aroused in tropical diseases by the Spanish-American War and the work of Ashford in Porto Rico that the attention of American physicians was called to the disease. In 1902 Stiles took up the study of

*Read before the North Carolina Medical Society, Charlotte, N. C., June 20 22, 1911.

the problem and demonstrated to the astonishment of the profession that the disease was the cause of the common anemia of the Southern States.

In the study of hookworm disease one cannot fail to note the striking resemblance between the effects of malaria on the Grecian empire and the effects of hookworm disease on the Southern people of today. In prehistoric times fair haired invaders from the North came down and took possession of that country. These were the people who developed the arts, sciences and philosophies that we are only further developing today. Not satisfied with their limited territory they sent armies into adjacent territory. Their soldiers returning from Persia and Egypt came home suffering from malaria. Their prisoners and slaves brought back with their armies also had the disease.

From the imported cases the mosquitoes became infected and transferred the disease to the primitive Aryan stock from the North who did not possess the natural inherited immunity which had been acquired by a race whose ancestry had contended with the disease for centuries. In these non-immune subjects malaria was severe and fatal, consequently the country was almost depopulated so far as the fair-haired people from the North were concerned, and with them went the artists, philosophers and scientists.

Like Greece the inhabitants of the fair Southland originally came from Northern Europe. With the slaves from Persia and Egypt the Greeks imported malaria; with the slaves from Africa we imported the hookworm. Malaria exterminated the white inhabitants of Greece and the descendants of their yellow slaves replaced them. Will hookworm disease exterminate us and will the descendants of our black slaves replace us?

We cannot correctly estimate the importance of hookworm disease without studying its relation to other diseases. The influence of hookworm disease on the tuberculosis death rate, for instance, is so apparent that Dr. Stiles recently read a paper on that subject. Osler describes the phthisical chest as a long, narrow, flat chest with depressed sternum, the scapulae having the appearance of wings. In describing the hookworm subject Dr. Ferrell, among other things, says when infection occurs before maturity the chest is thin, the ribs are prominent and the shoulder blades stand out as angel's wings.

No doubt but that in many cases the so-called phthisical chest is simply a hookworm chest, the debilitated condition resulting from hookworm disease makes good

ground in which tubercle bacilli will surely fall. We know now that the pale, ill-developed child with capricious appetite, so long regarded as one predisposed to tuberculosis, is simply a hookworm subject. Dr. Heiser of Manila reported that when the prisoners at Bilibid Prison were treated for hookworm disease their tuberculosis death rate dropped 50%. Then tuberculosis plus hookworm is twice as fatal as uncomplicated tuberculosis. Not only is this true but the lowered resistance of the hookworm subject invites tuberculosis. Moreover, it is estimated that there are twice as many cases of tuberculosis as there would be in a hookworm free population. Taking this into consideration the death rate from tuberculosis would be four fold that of a hookworm free population.

In a certain stage of hookworm infection numerous worms crawl through the body, and in the circulation of the blood they pass through the lungs, making numerous holes which form admirable places for tubercle bacilli to attack.

For the recovery of tuberculosis two things in particular are necessary; fresh air and good food. In hookworm disease the oxygen carrying properties of the blood is reduced 50%. The opportunity to utilize the fresh air is reduced and the chances to recover from tuberculosis are very much decreased. The other most important factor in connection with the treatment of tuberculosis is the digestion and assimilation of nutritious foods. Because of the presence of hookworms there are numerous hemorrhages into the intestine and the intestinal wall is thickened and in a catarrhal condition. All these things decrease the amount of food one can digest, and lessens the chances for recovery from tuberculosis. Tubercular patients from the North, free from hookworm disease, come to our sand hills and in a majority of cases recover from even advanced cases. Natives, the subject of both hookworm disease and tuberculosis, die notwithstanding the favored climate. In this favored climate, then, eradicate the hookworm and at the same time you will, to a great extent, eliminate tuberculosis.

The punctured surface of the intestine, in all probability, is a portal of entry for the typhoid bacillus. Large numbers of these bacilli rapidly pass into the blood stream and with their toxins overwhelm the patient before immunity can be established. To this add the debilitated condition of the hookworm subject and the deficient oxidation of the blood and you have decreased the typhoid patient's chances to recover 50%. Is hookworm disease, then, an etiological factor in typhoid fever? Of every 100,000 inhabitants of Scotland six

die annually from typhoid fever, in Germany seven, in England and Wales eleven. The death rate per 100,000 in the United States is 46; in North Carolina 66. Differences in climate, soil and geographical peculiarities are not sufficient to explain these variations in death rates. It is evident, therefore, that typhoid fever is more prevalent and more fatal in territory infected by the hookworm.

The anemic and debilitated condition probably doubles this death rate in pneumonia where the proper oxidation of the blood is so important and so essential to recovery. The same is true through the whole category of diseases. Is hookworm disease an etiological factor in pellagra? Pellagra only occurs in territory infected by hookworms. The cases I have seen have been in hookworm subjects or in those that had evidently suffered from the disease.

Bulletin 78 of the Agricultural Department states that the approximate number of cases of malaria in the whole United States is 1,500,000. The number of cases of hookworm disease in the South alone is estimated at 3,000,000. Moreover, the average malaria patient is incapacitated for a few weeks only, while the hookworm patient is one-fourth incapacitated for 365 days in the year. It has been conservatively estimated that 25% of the people of North Carolina have hookworm disease. The population of North Carolina is a little more than 2,000,000, therefore, there are 500,000 sufferers from the disease in our State. As stated above there are in all the United States 1,500,000 cases of malaria annually. North Carolina then has one-third as many cases of hookworm disease as there are cases of malaria in the whole United States. The victim of hookworm disease is one-fourth incapacitated. One-fourth of 500,000, which is 125,000, equals the number totally incapacitated in North Carolina. If malaria incapacitates its victim one-twelfth we observe that one-twelfth of the 1,500,000 cases also equals 125,000. Therefore, North Carolina loses as much from hookworm disease every year as the whole United States loses from malaria. What does the total disability of the 125,000 inhabitants mean to our State? Surely these people are worth as much as illiterate negroes, and prior to the Civil War they worth \$1,000 each. Multiply 125,000 by 1,000 and you have a loss to the State of \$125,000,000.

Sir Herbert Spencer said the first requisite to success in life is to be a good animal. Why does the Western farmer live in his \$10,000 house and ship corn and wheat to the South while the Southern farmer lives in a \$1,000 house and buys grain from the

West? Is it difference in soil altogether? It is because the Western farmer is first of all a good animal, and because the Southern farmer has converted his alimentary canal into a culture tube for hookworms and consequently is too lazy to plant a crop, much less harvest it. The hookworm has done more damage to the cotton crop of the South in the past ten years than the boll-weevil will do in the next 50 years. Of late we read a great deal of the evolution of Southern farming. Suppose you go to a farmer in the neighborhood of St. Louis and tell him of the wonderful progress of the Southern farmer and that this pale, narrow-chested, angel-winged, hookworm farmer will soon be shipping corn and oats to the West. What will he say? The St. Louis farmer will say, "I am from Missouri."

As stated above, it has been estimated that one-fourth of the people of North Carolina have hookworm disease, and that that fourth is one-fourth incapacitated. Can our industries, our farms and our factories, keep pace with those of other States while we attempt to operate them with men and women one-fourth incapacitated? One-fourth of our school children also are one-fourth incapacitated. Therefore of every \$16.00 spent for education \$1.00 is lost. By reason of this inability on the part of the children to assimilate the learning they would were they free from hookworm disease, the State annually loses \$187,500; and for the same reason Guilford county annually loses \$16,000.

Of all examinations made in the State laboratory of hygiene to the present time about 42% have been positive. Examination of 600 students of Davidson, Wake Forest, A. & M. College and the University showed an infection of 33 1-3%. These students represent the very best families in the State, and show how prevalent the disease is among the better classes. The State Militia, consisting of 1,230 men, was examined with the following result: In the Eastern section of the State 58% were infected; in the Central section 36%, and in the Western section 32%. Of 100 children at the Odd Fellow's Orphanage at Goldsboro 54% were infected. Examination of the children at the Methodist Orphanage at Raleigh showed 61% infected. To repeat, the students of the colleges just enumerated represent the very best families in the State. These young men are to become our teachers, our preachers and our political leaders. Need we expect great teachers, great preachers and great political leaders to develop from these weak, debilitated hookworm subjects? From such material can our State develop jurists, congressmen, and senators that will measure up to the standard set by

other States? Why has the South no presidential timber today? It is because our presidential timber is worm-eaten. The hookworm has done more in the last half century to prevent a Southern man from occupying the presidential chair than all the Vankees North of the Potomac River. 'Tis true all of our men are not hookworm subjects, but it takes hosts of red-blooded voters behind a man to make him president.

A recent bulletin of the State Board of Health states that hookworm disease has caused the death of ten times more people than were destroyed on both sides during the Civil War and that it has cost the South more than that war cost the nation.

There are 500,000 cases of hookworm disease in North Carolina and, I believe, there are about 2,000 doctors in the State. That gives each of us 250 cases. How many of yours have you treated? One day you shall have to give an account of your stewardship. This is one of the most important campaigns that has ever been undertaken. The call has been issued for volunteers. Let us take our place in the firing line. Let us with unsheathed saber and fixed bayonet go out to do battle against this enemy of mankind.

Annual Report Hookworm Commission of the North Carolina Board of Health.

By Jno. A. Ferrell, M. D., Assistant Secretary to
North Carolina Board of Health for Hookworm
Disease.

June 1, 1910—June 1, 1911.

Mr. President and Gentlemen:—

One year ago it was my privilege to come before you the first time as a new appointee of your Board and the Rockefeller Sanitary Commission as Director of the Campaign Against Hookworm Disease in this State. Little had been done other than to study the prevalence and distribution of the disease in the State as this was revealed by examinations of college students; outline a plan of campaign; and prepare literature for distribution.

After many delays, occasioned by the newness of the whole work and a lack of precedent for guidance, the campaign began to take shape. The State was divided by counties into nineteen sanitary districts with a view to having in each one railroad facilities. By this time three splendidly equipped physicians had entered the work as District Directors of the Hookworm Campaign. The work of not one of them has been surpassed in any State where the campaigns are being conducted. Their pluck, zeal and tact enabled them to present to members of every social realm, without

wounding sensibilities, arousing resentment or antagonism, a subject which on account of its associations is difficult to handle. The men referred to are Dr. B. W. Page, who entered the work July 1st; Dr. C. F. Strosnider, beginning July 15th, and Dr. C. L. Pridgen, July 30th. During the remainder of the summer a general educational campaign was carried on in an effort to reach the sixty county teachers' institutes, the physicians and editors in the towns where the institutes were held and as far as practicable those in surrounding and intermediate towns. In this and subsequent work lectures on hookworm disease were delivered, the worms were exhibited, literature distributed and, where possible, the eggs were demonstrated with the microscope. Victims of the disease and in some instances cured cases were exhibited. The need of a general knowledge of the disease, and the necessity for co-operation in securing the general adoption of measures for its recognition, cure and prevention were emphasized. On September 1st, each Director was assigned to a Sanitary District representing the central, eastern and western sections of the State, respectively, with a view to becoming better acquainted with conditions in the three geographical divisions of the State. Each Director by working with and through the physicians and the county superintendents of schools, who as a body endorsed our campaign, endeavored to reach the children, teachers and patrons of the schools. As the closing of the spring terms approached, having rounded up as far as practicable the district work, other districts were entered for the purpose of making sanitary and infection surveys preliminary to taking up later the regular work. These surveys for the counties in the districts worked number fifteen, and in addition ten other counties have had the surveys completed.

Briefly stated each county infection survey is based on a microscopic examination of not less than 200 representative school children, ages six and eighteen, taken at random. The sanitary surveys are based on an inspection in each county of not less than one hundred homes to ascertain the sanitary values of the privies to be found. The scale of values for the different types of privies is based on a classification agreed to by all the State Directors in the South. The two surveys are made as nearly as may be in the same communities or townships. By recording this information it will be possible in five or ten years to re-survey the counties. A comparison then of the first and second surveys will indicate the progress being made in getting rid of the disease and in the im-

provement of sanitary conveniences. Already the County Boards of Education in five counties have been persuaded to provide separate sanitary privies for the boys and girls at the various school houses throughout their respective counties.

On May 1st of the present year, Dr. P. W. Covington joined our forces as a District Director. His earnestness and enthusiasm, together with his love and ability for the work, bespeak in the highest terms for his future in the campaign. It is our desire that with the five thousand dollars appropriated for the hookworm campaign by the legislature we may have two other able, tactful, energetic and enthusiastic physicians to take up the work as District Directors of the Campaign, and that the work of the three new men may soon rival that of the three pioneers who have set the pace.

Though five counties is too large a territory for one man, even if each one does take five counties, only thirty of the one hundred counties can be reached at one time. To keep alive the work begun the right man must be constantly on the ground. Additional District Directors should therefore be placed in the field so that in covering the State such frequent shifting of the men may be avoided. We are hopeful that the educational influence of our campaign may serve to aid in building up a sentiment which will demand that a County Superintendent of Health be employed for his entire time and thus afford some competent local officer who can be held responsible for advancing this and the other health work.

Next in importance to the work of the District Directors comes that of our State Laboratory of Hygiene. Under the able direction of Dr. C. A. Shore, and a splendid corps of assistants, its work has grown by leaps and bounds until now it makes more bacteriological examinations than any other laboratory in the South. Only one year ago the examinations for hookworm disease did not require the entire time of one man. Now six men paid by the Rockefeller Commission, devoting their entire time to hookworm examinations, find much difficulty in handling the work. To illustrate this growth, I shall give the number of specimens examined for hookworm ova during each of the past five calendar quarters:

1910.				1911.
1st	2nd	3rd	4th	1st
Quarter	Quarter	Quarter	Quarter	Quarter
70	486	2,421	4,972	9,045

During April and May of the present quarter, or up to June 1st, 6,318 additional specimens have been examined, making a total thus far of 23,312 examinations for hookworm infection. In this number of

examinations, 7,276 hookworm infections were found, and 2,543 other intestinal infections. Though some of the seven other intestinal parasites are quite common, the hookworm was found three times as prevalent as all the others combined. The work includes an examination of more than one thousand of the State troops, more than one thousand orphans, a thousand children in the State schools for the blind, deaf and dumb, and the reformatory; and nearly one thousand inmates of insane asylums. A large percentage of the remaining 20,000 represent school children who were examined at the instance of the District Directors. Without the aid of the Rockefeller Commission funds the laboratory could not have handled even a large fraction of the new work, and without the aid of the laboratory our progress in the work would have been greatly retarded. Now that the volume of this work will surely increase and the limit of the amount the Commission will spend in this State has been reached, I commend that all possible be done to enable the laboratory to meet the increased demands of the coming year.

In the central office, with the aid of an efficient stenographer, we have endeavored to keep in touch with every agency available for disseminating knowledge concerning the disease, its recognition, cure and prevention; arousing interest and response; preparing and distributing literature and newspaper articles; tabulating the daily reports of the District Directors; disbursing funds; managing the general business of the campaign and planning the work. In this connection I desire to express my appreciation to the various members of the State Board of Health for their suggestions relative to the work, and to the Secretary of the Board for the co-operation rendered. By enumerating in a summary some of the work of the central office, together with that of the District Directors and the laboratory, a fair idea of what up to this time has been accomplished will be given. Up to June 1, 1911, the following was recorded:

1,306 physicians out of about 1,600 in the State have answered inquiries relative to hookworm disease.

597 physicians reported having treated the disease.

21,098 victims of the disease have been treated and reported by physicians.

99 counties out of the 100 have infected people.

591 doctors have used the laboratory to have hookworm examinations made.

23,312 specimens have been examined for hookworm ova infection.

7,276 of these specimens showed hookworm infection.

2,543 other intestinal infections of seven varieties were found.

726 physicians have asked for and received literature for distribution among their patrons.

692 schools have been visited, lectured to, inspected, and, in many instances, microscopically examined.

69,000 school children were thus reached. 58,217 people were lectured to in popular audiences.

353,700 pieces of literature have been placed in the hands of the people. These included pamphlets, bulletins and leaflets on Hookworm Disease; pamphlets on the Sanitary Privy, and prescription pads for the physicians.

6,000 public school teachers have been acquainted with the disease in 75 county teachers institutes and elsewhere.

14,600 letters have been sent to doctors, educators, editors, legislators and other officials.

2,080 miscellaneous business letters have been sent out.

From this summary it can be seen that the work has been extensive and that it is bringing results. The number of doctors reporting having treated the disease has grown in one year from 183 to 597, an increase of more than 400; the number of laboratory examinations from 500 to more than 23,000, and the number of such cases treated from 3,250 to 21,000. Besides being examined and treated for the disease, the people as a result of the educational work are being aroused on sanitary measures. Sanitary privies are being built and used at homes and school houses in every section of the State.

PLANS FOR ENSUING YEAR.

The plan of work proposed for the ensuing year embraces a continuance of the work done last summer among the teachers at their county institutes and normals. This prepares the way to our entering the schools, lecturing to the pupils, having them examined, and sending messages and literature to their parents. We wish then to resume the school work in the fall, at all times seeking the co-operation of physicians, newspapers, officials and other influential citizens.

A new departure in the work will be the establishment of a line of temporary dispensaries or hospitals for the free examination and treatment of the disease. This work will be first tried in some of the counties where the infection is heavy. We hope that it will serve to restore to health a large number of our citizens who otherwise will not seek treatment; that it will exercise a wonderful educational influence on our peo-

ple generally, looking to the cure and prevention of hookworm and other diseases; and that it will bring the physicians and people closer together and cause the campaign against the disease and poor sanitary conditions to continue even after the dispensaries or hospitals have gone to new fields. Before entering a county we shall ask for the endorsement and support of the physicians, the county boards of health and education, and for endorsement and some financial support from the county commissioners. At least one District Director and one laboratory man will be found at the appointed times at the dispensaries. Free microscopic examinations will be made, and when found positive the medicine will be handed to the patient to be taken after returning home. At the hospital the examination will be made and if infection is found the patient will be put to bed and the medicine administered at the hospital. When one treatment is complete the patient will be allowed to go home. In a few days he will return for a second examination, and if still infected will be given a second treatment, etc. The necessary tents, cots, etc., for this hospital have been secured as a loan from the Public Health and Marine Hospital Service. The plan is working nicely in two States. A large number of physicians have already endorsed the plan of work. We would be glad to know it will meet with the approval of the Medical Society as a whole.

Though the campaign is still in its infancy, we are encouraged by the accomplishments above enumerated and by the perceptible swinging of public sentiment from its humorous, indifferent or resentful mood to a serious and responsive attitude. The splendid sympathetic spirit found to exist among our doctors, editors, educators, legislators, and the people generally is encouragement sufficient to urge us on in the prosecution of the campaign and to stimulate us in the belief that the seed of effort, activity and money sown in the cause will prove prolific in the fertile soil and develop into a strong public sentiment, and give as a final harvest freedom, not alone from hookworm disease, but freedom from many other preventable diseases.

The Value of Exercise in Infancy *

By St. George T. Ginnian, M. D., Lecturer on Diseases of Children, Medical College of Virginia, Richmond, Va.

The Roman physicians gave special regard to the value of exercise. One of the most notable writers on the subject was

*Read before the Richmond Academy of Medicine and Surgery, July 12, 1910.

Celsus whose advice is good today. He advises exercise which should always precede food. So earnest is Celsus in advising exercise, that he says that if the usual means of exercise are not available, such as riding or sailing or the violent exercise of a carriage, a bed ought to be suspended and moved from side to side. If there be not even that, a prop is to be put under one foot and by this fulcrum the bed is to be propelled backwards and forwards by the hand.

In the second century of the Christian Era exercise is much discussed. "And it is better in the open air than in a portico, better in shade formed by shrubberies than that which is under a roof." (Food, Air and Exercise.—Rabigliati, p. 529.) The Roman may not have known about oxidation or waste products in the blood; he may not have been able to give chemical names for these substances, but his juxtaposition of digestion with movements and his clear preception of their interdependence and relations to one another mark him out as possessing the insight required by the accomplished physician at all times. This same man compelled our admiration by his advice regarding the changes in the pulse many hundreds of years before the discovery of the circulation of the blood.

We have a large number of valuable books on the subject of exercise, mostly found on the Swedish system inaugurated by Ling. Baron Nile Posse has published (Lee and Sheppard, Boston) a small but well arranged set of exercises for children. One of the oldest schools in North Carolina has for its motto, "*Mens sana in Corpore sano.*"

Parents are not and should not be content with simply preserving life in an infant. They naturally expect a well-developed, healthy child, because they are beginning to find that there are means to obtain good development even in early infancy. When an infant is able to walk, and is in the second year, exercise becomes a very important factor and a valuable aid to digestion. When an infant is eighteen months old exercise is especially valuable, and an infant of this age, when allowed to play on the grass in the open air, in the shade if hot, will eat and digest what the same infant would neither eat nor digest when heavily clothed, strapped to a go-cart and rolled about on brick pavements in a town. An infant just beginning to walk is delayed in walking if it must depend on brick pavements where a fall will result in some injury, or the mothers fears to allow the child to walk lest it be injured by falling. This delay in walking is a serious drawback to digestion. A mother should be taught that

while an infant, by means of a go cart, can be raised in a town, the same infant will do much better if raised in the suburbs or the country where a grass lawn will afford a place for exercise in pure air. I believe that the go-cart, while a valuable means of taking an infant out, has been much abused and has been the cause of much early under-development, with accompanying digestive trouble.

I recently saw, in New York City, an infant eight months old, female, the child of a physician, and under the care of a prominent pediatrician. This infant has been allowed to exercise on the floor on a quilt, and though only eight months old, could sit at the table in a high chair and eat bread. She drank forty ounces of milk a day and ate stewed apples. The infant spent considerable portion of the day in the park.

The following cases will illustrate the value of exercise and country air:

No. 1.—Baby B., was born in the country. When one year old the parents moved to Richmond. The baby was kept in a carriage and rolled about the streets. Digestion was poor, the bowels constipated and gain was slow. When the infant was two years old the parents moved back to the country. The condition improved in every way and the child soon gained weight and strength. After a stay of six months in the country the parents moved back to town. When the child was brought back to town, aged two and one-half years, he weighed thirty-two pounds. The parents remained in town eighteen months, and during that time the child did not gain a pound. A return to the country brought about an improvement, although this time the improvement was slower, as the child did not care to exercise, was not digesting well and had poor appetite. He remained in the country and soon developed into a strong boy.

No. 2.—Baby W., aged 26 months, lived in a second flat, and was apparently a well-developed child. He was very obstinately constipated, had an obstinate indigestion, and slept poorly. This case was referred to me by a physician who had tried every known means of making the bowels move. Castor oil, salts, cascara, massage, fruits, olive oil and cereals, all seemed useless. High enemas and colonis flushes would, with great difficulty, move the bowels, and the mother and child fought this out every other day. It seemed very hopeless; text books gave little encouragement. I discarded every drug and insisted that the family move to the suburbs, where the child could without danger to himself play under the trees and on the grass the larger portion of the day. The effect was

like magic. The child, which had been under constant observation for eight or nine months, immediately had a good appetite and slept well. The good natural sleep restored digestion, and the bowels moved without a purgative. Two years have elapsed since the child moved to the suburbs, and it has remained entirely well.

No. 3.—Baby W., was born in Richmond, and was near dying of milk infection when six months old. The parents moved to the country near the city. The infant is nineteen months old, plays out all day, except for a nap, and eats three meals a day at the table. His diet consists of bread, meat, vegetables including green peas, and anything on the table. Three ordinary mammies would be put in collapse to keep up with him during the day. It would be hard to find a boy in town who can run and play as he does. Surely he would not be able to eat such a diet if he was rolled in a go-cart on a brick pavement in town or tied down to the pace of an old nurse. I am not this child's physician, and do not advocate the diet, but the case illustrates well the value of exercise in pure air.

No. 4.—Baby D. A., mother asked why her child, eighteen months old, did not digest and had no appetite. The child was put in a go-cart at seven a. m. and rolled on the brick pavement for an hour and a half, or sat in the old nurse's lap on some carriage stone to get the morning air. The child did some little walking, but was held by the old nurse for fear of falling. A carriage drive for the late afternoon was a routine. The bowels were irregular, loose or constipated. Barley gruel half the time was all the child could digest. It had never been to a park for fear of taking some disease. I ordered it to be taken to the park at seven a. m. in a go cart, taken out and allowed to run about on the grass if not wet, or on the walks. To the mother's astonishment the child refused to go back in the go-cart the first morning, and walked home, five blocks. The afternoon drive was changed to exercise in a park or a country friend's yard. The effect was wonderful. The child developed a healthy appetite, began eating bread, drank over forty ounces of milk and ate rice. The bowels became firm, yellow and regular, with no medicine since the exercise was prescribed.

No. 5.—A notable instance that came to my attention was that of the female infants, the same age, of two brothers. One brother is well-to-do and lives in Richmond. The other brother is a poor preacher, living in a healthy, elevated, country village. The Richmond baby was nursed nine months, then fed on special cow's milk. She never

had any illness, spent the first summer in the country and has done well.

The child of the preacher was born two months after her mother was operated upon for cancer of the breast. This infant was never nursed at the breast and had a hard time for eight or nine months. At the age of eighteen months, this child, with an adverse start in life, was equal in weight and development to the child raised in town with the enviable gospel of good milk. What caused the wonderful development of the infant born of a mother who had cancer, and was not nursed at the breast? This child had a beautiful lawn with grass and shade and pure air. That answers the question. She slept later in the morning, was able to walk early, could exercise more, and slept in pure air. This child was not kept in the house from nine in the morning until five in the afternoon on account of heat.

No. 6.—A boy, aged seven, was in the hospital with typhoid fever and had an uneventful case. The fever reached normal in three weeks, remained normal five or six days, at which time it returned and was constant, running to 100 or 101 degrees F. in the afternoon. Otherwise, the child seemed remarkably well. In appearance he was pale. After a consultation, I advised more food and removal from the hospital, where he could be gotten out of bed. This was refused. After another week and another consultation, I insisted that the child be removed from the hospital, as he had a very good place at home. No, the child had fever, and was kept in bed in the hospital on liquid diet. Another week and another consultation,—I gave the same advice, it was followed. Two days after going home where the boy was gotten out of bed, the fever left and recovery was rapid. Of course this is an old story and familiar to all now. In Osler's early articles on typhoid, he says that the only cure for the after-fever of typhoid is to break the thermometer. All know now that the lack of exercise in such cases is sufficient cause of fever.

No. 7.—Baby G., an infant, aged nineteen months, always very strong and healthy, remarkably well developed and in good condition arrived (Richmond) from his country home in West Virginia. At his former home he could walk and play in the yard a large portion of the day, with fresh air day and night. When the family came to town, the child was put in a small room on the second floor. There was no yard, and the porch, in the hot sun, was four feet wide and fifteen feet long. The child could not run in the street, as he was not accustomed to danger. He lost appetite, lost

flesh rapidly, became pale like his neighbors and was soon reduced to barley diet with small quantities of milk. His face became pinched and the bones prominent on the forehead. He had little fever. The neighbors consoled the mother with the fact that the child was alive and able to walk. Lack of exercise and pure air were a severe strain on this child's life.

No. 7.—Baby S. The parents are poor. The father worked with the best dairy in the city and got plenty of good milk. The mother has twins, which were nursed and then fed on the best milk that could be gotten. The twins are twenty months old, and have never had any serious diarrhea, but have been raised in a small flat and have never had any chance to go out, as the mother cooks and does all of her housework. The skin of each child is soft and flabby. They appear very old. They are so pale and colorless that their complexion is a new standard for whiteness. Good milk, with poor town air and no exercise will not make healthy children.

Pure milk has done more for young infants than any one can estimate, and there seems to be a general notion now that just so the milk is pure the child will live and thrive. Never was there a greater error. We must have green grass, shade trees and pure air together with pure milk. We cannot preach the gospel of pure milk and stop without raising a crop of physically unfit. The absence of literature on this subject is good evidence of how it has been neglected. From the age of two and three years and up, country air or a play ground of ample size is so essential to development of child life that all who are able should live in the suburbs or in the neighborhood of some play ground. Two months in the summer spent in the country is very good, but twelve months spent in the country is better. One of the most notable instances of the value of exercise in conjunction with fresh air was found when children from orthopedic hospitals in New York City were removed to the seashore. More improvement took place in the hot weather at the seashore than in double the time at the hospital in cold weather.

Such a large number of our population is raised in town, that unless due care is taken, the time must come when the decrease that has stamped Egypt, Greece, Italy, France and even England, will be talked of in America. There is no truer expression than, "The child is father of the man." By all odds, the largest field of work in the medical world now is pediatrics, where from early infancy we can so develop the body as to eliminate, prevent or minimize the many disorders that flesh is heir to. Where

surgical cases are counted by hundreds, children are counted by thousands, and so with adult medical cases. A plea for exercise in pure air is only a plea for sound development.

Hypothyroidism, or Rheumatoid Arthritis and Its Successful Treatment.

By A. B. Grubb, M. D., Cripple Creek, Virginia.

So many misnomers are used in our medical nomenclature that often we call a disease by the name by which it was known in the days of superstition. So, instead of the name giving us any idea of the pathology or etiology of a condition it only reminds us of the vagaries of a race of people long since extinct. For instance, malaria (malabad aria-air), meaning bad air, had its origin because of the supposed idea that bad air emanating from the ground was the cause of malaria.

So with the term "Rheumatoid Arthritis," while it serves to describe the effect of a true pathological condition, there is nothing to suggest the real cause nor the proper treatment, and at the risk of being premature we should coin the word "Hypothyroidism" and hope for it to soon become established, as it suggests a diminution or lack of secretion of the thymus gland, just as hypothyroidism leads us on to cretinism.

Mendel removed the thymus gland from dogs and observed a condition which he thought corresponded to rickets in children. Evidently his observations were wrong for the thymus apparently has not been very successfully used in rickets, and besides rickets has a too definite etiology and treatment along sanitary lines to place any blame on the thymus. Surely the condition Mendel saw was rheumatoid arthritis, for the skeletal changes of rickets, such as epiphyseal proliferation, talipes and other osteal changes have a strong resemblance to the osteal changes of rheumatoid arthritis, hence the mistake could be easily made in a dog.

The pathology of rheumatoid arthritis suggests at once a metabolic disturbance, and to Philip W. Nathan is due the credit of making an excellent classification of the arthritic troubles and of applying the proper treatment. His classification of the degenerative joint diseases is as follows:

- A. Trophic Arthritis.
 - I Metabolic Arthritis.
- B. Trophic Osteo Arthritis.
 1. Senile Osteo Arthritis.
 2. Neurotic Osteo Arthritis.
 3. Metabolic Osteo Arthritis.

Of these, A1 and B3 shall attract our closest attention, both being metabolic in origin and are plainly the end-results of a hypothyroidism and will not be mistaken for the articular troubles complicating tabes

and syringomyelia nor with the acute infections of joints as acute articular rheumatism, gonorrheal arthritis, etc.

For in the infections sudden onset, high temperature, a definite course and recovery can be easily differentiated from the progressive course of the degenerative joint infection, lack of temperature, and the uniformly polyarticular nature of the attack. The swelling is periarticular and an effusion is poured out which in the feet has been mistaken for dropsy. There is a proliferation of bone cells which is deposited around the joint, and sometimes it produces a locked joint.

In a typical case the patient (generally a woman near fifty) begins to complain of "rheumatism," and her trouble is nearly always aggravated by cloudy weather. Many of them can foretell rain by their pains being accentuated. She begins to have stiffness in her fingers after a few weeks and the fingers swell around the joints, but after the early morning hours the symptoms "wear off." The other smaller joints become involved and finally the shoulders, elbows, knees and neck, and in fact any joint, becomes involved, until we have a helpless, bed ridden patient before us.

As in most joint troubles, muscular rigidity and contractures are present and it may be to such an extent that luxation occurs. The symptoms may improve for a while and then grow worse, or one joint may improve as another grows progressively worse. There is great deformity (the fingers generally first involved) and the fingers are nearly always turned to the ulnar side or sometimes one is turned to the radial and another to the ulnar side thus crossing each other. The legs are flexed on the thigh or may be turned to one side, for as the cartilaginous joint is absorbed at one place and swollen at another most any deviation may be expected.

The pain advances *pari passu* with the swelling and morphine becomes a habit with more of this class than perhaps any other disease.

While a close study is required to make a differential diagnosis I would always in any doubtful case use the "therapeutic test," and two ounces of thymus will always suffice for the test.

The treatment which is the dessicated thymus gland is the boon of our profession today.

Hydro-therapy, massage, electro-therapeutics, tonics, guaiacol, etc., are practically without effect and we hail the thymus as our specific, for it certainly is a specific just as truly as is salvarsan, quinine, and thyroid in their respective spheres. Of

course perfect results can not be hoped for in a joint where the cartilage has been replaced by a bony deposit and pseudo-ankylosis has taken place. But nature here is exceeding kind and will replace cartilage to a certain extent and remove the deposits. I give a teaspoonful of the powder of nights and mornings, or if the tablets are used give enough throughout the day to amount to sixty grains. No toxic effect so far has been observed in the eight cases I have successfully treated. No matter how near death's door is your patient give the thymus a trial.

So while we are exultant over the work of Ehrlich who touches the syphilitic sores and says "go thy way and sin no more" we are wondrous proud that with Nathan's thymus we can say to the bed-ridden mother, hopeless and in despair, "arise, take up thy bed and walk."

Surgery of the Eyelid.

By C. B. Wylie, M. D., Chattanooga, Tenn.

In order that a comprehensive idea may be had of this branch of surgery it will be best to give, first, a brief description of the gross anatomy of the parts to be considered. The eyelids are composed from before backwards of the following structures: skin, loose connective tissue, muscular tissue, tarsus, fascia and conjunctiva; they contain eyelashes, numerous glands, blood vessels, lymphatics and nerves. The skin is thin and delicately attached to the underlying muscle by loose areolar tissue. The margin of each lid is rounded externally, in which are located the lashes or cilia, and internally it is square, immediately in front of which are the mouths of the meibomian glands; anterior to these are the sweat glands; directly back of the skin and areolar tissue is the orbicularis palpebrarum muscle, extending transversely across the lid—being attached to the external and internal margin of the orbit—that in the upper lid being about ten millimeters wide in the center, and in the lower somewhat less. The superior levator palpebrarum muscle arises from the lesser wing of the sphenoid bone and is attached to the superior and external margin of the tarsal cartilage, with some fibers running to the skin. The function of this muscle—as its name indicates—is to elevate the lid, while the action of the orbicularis depresses the lid. The tarsal cartilages consist of thin plates of dense, fibrous tissue, which give to the lid form and stiffness—those in the upper lid being much larger than in the lower. In the substance of tarsus are the meibomian glands arranged in parallel rows—thirty to forty in the upper, twenty to thirty in the

lower. These are elongated, sebaceous glands, filled with a fatty secretion and opening on the free margin of the lid. The lymphatics pass to the preauricular, submaxillary and parotid lymphatic glands. The levator muscle is supplied by the third nerve, and the orbicularis by the facial, the sensory nerve supply is from the fifth. The function of the lids is to protect the eye-ball from foreign bodies, distribute the secretions, which keep them lubricated, and regulate the light entering the eye.

Surgery of the eyelid is directed toward the correction of any deformities that may exist which prevents them from performing their proper physiological functions.

In this paper I will not attempt to describe the diseases and other conditions which produce these deformities, as the time allotted to me is not sufficient, but shall confine myself to the surgical correction of a few of the deformities which are most frequently met with in practice.

In operating for ptosis the object to be accomplished is a shortening of the upper lid to a point sufficient to uncover the pupil, when the eye is open. In some cases, the resection of a crescentic piece, transversely across the lid, including a part of the muscle, freeing the skin above the incision from the underlying tissue, and the coapting of the edges of the wound will be sufficient; in other cases, it will be necessary to make a crescentic resection of the skin transversely across the lid, except about one-fourth of an inch in the median line to form a tongue, which is to be dissected loose vertically to a point about three fourths of an inch above the margin of the lid; the width of the point resected on either side of this tongue to be governed by the amount of the elevation of the lid that is desired, bearing in mind that the skin is very loose, and will permit of a great deal of stretching. The skin from the point where the upper end of the tongue has been resected to the upper margin of the brow is to be elevated sufficiently to allow the tongue of skin, which has previously been denuded on its external surface, to be drawn up through it, and secured by a suture to the brow. This brings the margin of the wound together where it should be stitched with fine silk thread. In congenital ptosis, an operation for advancement of the levator palpebrarum muscle may be necessary.

In operating for entropion the object to be attained is the drawing out of the margin of the lid sufficient to bring the cilia into their proper position, to relieve the corneal irritation. I will attempt to describe but two of these operations, which seem to be the simplest and most practicable, and generally give the best results.

First.—A parallel incision is made in the margin of the lid extending from near the punctum lacrymalis to the external canthus, between the mouths of the meibomian glands and the cilia—which is known as the inter marginal space—and should be about three milometers deep; then with a bone spatula under the lid to protect the eyeball a second incision should be made from the internal to the external canthus, parallel to the margin of the lid, and about four milometers above it on the external surface, and should be down to the muscle. A third incision should be made beginning at the end of the second incision at one canthus, and circling up toward the center, and down again at the end of the second incision at the other canthus; the skin between the second and third incision is then to be dissected away, and the skin above the area to be freed from the underlying tissues, the edges of the wound brought together and sutured with fine silk thread. This will draw the external margin of the lid up, leaving a gaping wound at the first incision on the margin of the lid, which may be allowed to fill up by granulation, or a narrow strip of the skin, which has been dissected from the lid, placed in this gap to form a graft. It will adhere in two or three days if properly held in place. Should a further eversion of the margin of the lid than this operation will afford be found necessary the same technique may be proceeded with as the above just described, except that before suturing the edges of the wound a V-shaped transverse cut is made through the muscle and tarsal cartilage, and the removal of the wedge-shaped piece. Sutures are then inserted, starting just above the cilia on the external surface, passing through the skin and muscle into the wound, then through the upper margin of the V-shaped cut into the cartilage, and back again through the muscle and skin a short distance transversely away from its original entrance. Three of these sutures should be introduced and tied closely over a small piece of rubber tubing. The V-shaped incision through the cartilage will permit the lower segment to be everted sufficiently to change the position of the cilia, thus relieving the irritation of the cornea.

Ectropion, or a turning out of the eyelid, may be either of the upper or lower lid, but eversion of the upper lid being of rare occurrence, I will speak of it only as it occurs in the lower lid. The causes which produce these conditions will govern somewhat the surgical procedure in correcting the deformity.

If the everted lid is due to a diseased condition of the mucous membrane, causing a hypertrophied condition of that tissue, it

will be necessary to remove a sufficient amount of it to permit the margin of the lid to turn back to its normal position. This may require one operation or two operations combined—depending somewhat on the degree of the deformity. If the eversion be not too great, a parallel incision of the mucous membrane, two millimeters from the margin of the lid through its entire length down to the cartilage is to be made. Another incision of the same length is to be made parallel to this one. of sufficient distance back that when the space between the two incisions is dissected out, and the margin of the wound brought together and sutured, the edge of the lid will be brought back to its proper position. The mucous membrane and facia down to the cartilage to be dissected out between these two parallel incisions. Should the eversion be pronounced, and this operation is not sufficient to correct the deformity, an additional operation may be performed at the external canthus; here a wedge-shaped piece is taken out, extending from the external canthus along the lower lid, and of sufficient width that when the edges are brought together the deformity will be overcome. The edges of the wound should be held in place by a hairlip pin, and one or two sutures of silk to close the skin. Should the deformity be due to scar tissue of the external surface of the lid, the operations known as the V Y operation will give good results.

This is accomplished by making a V-shaped incision in the skin below the eyelid, with the apex directed away from the lid margin, and the base extended up near the margin of the lid. The skin is then to be dissected loose from the underlying tissue, not only in the V-shaped area, but well out on either side of the incision. The V shaped area is then drawn upward until a slight inversion of the margin of the lid is produced, the lower portion of the wound is brought together and sutured, forming the figure Y.

The operation above described of excision of a wedge shaped piece of the lid—at the external canthus—may be combined with the V Y operation. Where the deformity is more extensive, and these operations will not suffice, a plastic operation may be done, which is known as blepharoplasty, which consists in covering the defect formed by cicatrix, new growth or extensive ulceration, with a skin flap having a pedical, taken from some adjacent part, or by means of skin graft. In this operation it is advisable to either close the lids temporarily by several sutures through the margin—to prevent cicatricial contraction,—or three or four sutures passed through the margin of the lower lid, carried up over the brow, and

fastened by adhesive plaster. In this latter plan of sutures, the tension of the lower lid may be increased or diminished from day to day to suit the conditions which may be present.

In using a flap, when covering the denuded surface, the shape must be governed by the area to be covered and should be about one-third larger than the place to be filled in, to allow for shrinkage, and sutured into position with fine silk thread. This flap may be taken from the temple or cheek and cut in such a way as to leave but little puckering of the pedical when drawn into position. To avoid scarring the part where the flap has been removed, the skin surrounding it should be freed from the underlying tissue and the edges brought together and sutured. If properly done there will be but little scarring. In skin grafting—after the affected part has been freed from scar tissue, or diseased growth, and the lid is brought into proper place as above described—the defect is to be filled in by one large piece of skin or a number of smaller pieces. These grafts should be taken from some part of the body where the skin is thin and delicate, and somewhat larger than the part to be covered, and free from hair. The inner side of the arm and thigh being suitable. In these grafts the entire thickness of the skin or only the epidermous (Thiersch's) may be used. Should there be a sloughing of a part of the graft, the area may be freshened up and a new graft applied. The best results are obtained from a thin graft. In all surgical operations on the eyelids thorough cleanliness and strict antiseptic measures should be observed.

The Duty of the Physician to his Patient.*

By H. N. Abernethy, M. D., Denver, N. C.

In bringing to attention my subject on this occasion, it is not my purpose to criticize my professional brethren to the exclusion of myself; for I may be "as deep in the mud as they are in the mire." There is an old adage that "one brings his worth." And while many of us no doubt get better pay than our professional services demand, yet we are not always paid as well as we should be. It is perfectly legitimate that we should charge for our services, and collect our bills, too, and to do this we must feel that we have done our duty to our patient. We too often neglect to give our patient a thorough examination. We frequently go to the bedside, take hold of our patient's hand, feel his pulse, look at his tongue, raise his eyelids, ask if his bowels have moved, and how about your kidneys?

*Read before the Lincoln County Medical Society at its August, 1911, meeting.

These interrogations are answered semi-intelligently, then we begin writing a prescription, or call for a bottle and give him treatment, and out and into our buggy and gone. We are not far away until we begin to surmise as to our diagnosis, and we don't know anything more about his trouble than he knows about what he is taking.

I know it is impossible for us to diagnose a case properly at first sight, but we could learn much more if we would examine our patients more thoroughly, go into the details more minutely, learning as much as we can about his habits, his conduct, and family history as far back as we can go. The manner in which he has formerly been treated, and especially to ascertain the amount of patent and proprietary (so-called) remedies he has been using; and if we are not profited by such an examination, our patient is better satisfied.

Much depends upon how intensely we are interested in our case. The mental condition of the sick has much to do with his convalescence. We pride ourselves on our manner and treatment of our patients. This probably at one time floated our profession along; but at this intelligent age of the world, every person has a certain amount of information, and thinks more for himself, and about himself, than in former times. The manner in which our ancestor practitioners did, will not do now. Many of the lines of treatment they followed would almost be counted suicidal in this age, as our means of diagnosis are so much better, and we should not neglect to use them. Of course every physician cannot have an X-Ray, the microscope, and many other means of diagnosis, but while such is the case we can apply to those who have such appliances.

And lastly, and by no means in the least, we can be close students of our text books, and medical periodicals. There is no doubt that we idle enough time away, outside of necessary rest, in which many good medical books and periodicals could be read and thoroughly digested; thereby better preparing ourselves, and our patients receiving better treatment.

Then to surmise what I have said, it is our unbounded duty to use every means possible, to properly diagnose, and treat our patients, without injury to them and remorse to our own conscience. We cannot give them such treatment without knowing ourselves the physiological and therapeutical action of our drugs. And we had far better make a mistake in diagnosis than in treatment. Take a case in question, we make several visits, the patient seems somewhat improved, and we dismiss the case. But in a few days the patient gets worse,

and is awakened to the fact that the doctor has done him no good, and that his condition is growing worse. The doctor has not studied the case, and may have given the wrong treatment, and as a natural consequence the sick man seeks relief elsewhere. He sees a remedy advertised in some newspaper, or he gets hold of some patent medicine pamphlet, and he begins to study it, and he thinks it suits his case and so he begins to spend his money and ruin his constitution. He gets no relief and he drops it; and then another pamphlet falls into his hands which describes his case much more fully, and in it he thinks he has found a panacea for all his troubles, but a thorough trial brings no relief. Still unwilling to give up the search for a remedy, feeling confident he will strike the right thing soon, he tries another and another, until he has gone through the whole catalogue of advertised nostrums, and now he has become so accustomed to taking the stuff that he feels that he cannot get on without taking something. Sometimes I think all the patent medicine concerns are organized; and when one company pulls him for all they can get, and the victim begins to weaken, they give him over to another company. As you may notice, when a party begins to write a patent medicine concern, it is not long until other companies begin to send him literature. If we, as doctors, can't treat our patients after examining them properly, then how can the patent and proprietary medicine man do it? There is no doubt but that the greater part of the proprietary and patent medicine remedies are gotten up by men who are not doctors or pharmacists, men who know little or nothing about the physiological effect and therapeutical uses of the drugs they employ. Men writing prescriptions for us who are not graduates or have not even taken a course in medicine. What is the reason for such a course of conduct? And why is there so much patent and proprietary medicine in use? Why is every drug store, plank fence, and tree lined with posters?

These companies cannot exist without customers. Are we, as physicians, feeders? There is a cause for this. Can it be remedied? Are we, as doctors, bearing any part of the blame? Are we parties to this great evil? Let us examine our past professional life and see if any of this evil lies at our door, and if so let us sweep it away.

I fear our carelessness in applying ourselves, and taking the proper interest in our profession, has given cause for the laity's confidence in the profession to be shaken, hence they apply to patent and proprietary remedies. There is a kind of craziness

existing among a certain element of our people that they must always be taking something, especially among the more nervous, and such should not be the case. I believe the best physicians give the fewest drugs. We should try to remedy this disposition on the part of such people to be eternally wanting to gulp down some kind of medicine. If they must be treated let us make the prescription, and endeavor to stop them from taking the things we don't know anything about.

I firmly believe that many of these advertised nostrums contain narcotics, and have a habit producing effect. Whether such advertised remedies are producing many of the stomach troubles, and nervousness, found among our patients and feeders to our insane asylums is a question, and a question I wish our society to discuss.

The main points I wish to bring out are: Are we, as physicians, through lack of interest in our patients causing them to become patent medicine fiends? And if not, are we, as physicians, doing our duty in trying to suppress such practice?

The Copper Salts and Ipecacuanha in the Treatment of Amebic Colitis.

By H. J. Achard, M. D., Chicago.

In Merck's Archives for July, 1911, Dr. J. A. Storck, of New Orleans, reports results in a series of 45 cases of amebic colitis, which are not only interesting but highly instructive. He says that of all the numerous remedies suggested for the treatment of this difficult condition, ipecacuanha, calomel and magnesium sulphate are the best for internal use; silver salts have been recommended for colonic irrigation and instillation. For his part he has found a combination of the internal administration of ipecacuanha and copper arsenite, along with hot instillations of copper sulphate to give the best results.

In some cases the administration of ipecacuanha in the form of pills coated with shellac, keratin or salol, had to be abandoned because of the occurrence of disagreeable results; and these cases, if they were put upon copper arsenite by mouth and hot instillations of copper sulphate showed good results.

The 45 cases reported are taken from hospital and private practice, and 24 of them were treated with ipecacuanha alone. Nine received ipecacuanha and copper arsenite internally, and hot instillations of copper sulphate by the bowel, while twelve were treated with copper arsenite alone internally, and hot instillations of copper sulphate by bowel. All the cases were given at 5 o'clock every morning for five

to ten days, 30 c.c. of a saturated solution of magnesium sulphate, in order to remove from the mucous membranes as many as possible of the entameba h., and clear out all digestive residue.

In the 24 cases treated by ipecacuanha, the initial dose given at 8 p. m. ranged from 40 to 80 grains in salol coated pills. The total quantity given ranged from 200 grains minimal dose to 630 grains maximal dose, in a given case, according to the toleration and results produced. Strange to say, the smaller doses gave as good results as the larger, that is, apparently caused the disappearance of the entamebae h., and the cases taking the smaller amounts did not show a greater number of relapses, indicated by a reappearance of the entameba h., than those taking the larger amounts. Nevertheless, the author preferred to give a large initial dose and a greater total quantity. The dose was reduced five grains every night, until on examination the stools showed freedom from the entameba h., when the dose was maintained for several days.

Of the first series of 24 cases, 6 relapsed. The entameba h. reappeared in the stools after an apparent absence of two to six weeks. In 12 of the cases where no entameba h. could be found during this period, three had occasionally mucoid stools, one of them continuing to show traces of blood. Assuming that the other six cases of which trace was lost did not have a recurrence, and eliminating the three cases with mucoid stools, there is a proportion of true relapses of 25%.

Four of the six cases of this series which relapsed were prevailed upon to submit to the copper treatment, and with one exception there was complete cessation of all bowel symptoms in the course of twelve days. These cases have remained free from entameba h. up to the time of writing, four months since their disappearance.

The author emphasizes his experience that under the administration of ipecacuanha the number of stools is lessened and they become formed, but the entameba h. is not eradicated in all cases. The parasite may, in fact, develop an ipecacuanha resistance.

The second series comprises nine cases which were treated with ipecacuanha as in Series I, and in addition during the day time with 1-100 grain of copper arsenite every hour until six or eight doses were administered and thereafter every four or five hours as long as the ipecacuanha was given.

Morning and evening (every twelve hours) during the above period, high instillations of hot (106 to 110° F.) solution of copper

sulphate were administered. *Entameba h.*, also mucous and blood disappeared from the stools in all of these cases in from six to twenty days. Of these, six cases were under observation for more than two months; there was no recurrence of *entameba h.* and only one relapse of mucoid stools, a percentage of 11 1-9.

In the third series, 13 cases were treated, including three in which untoward effects had occurred from the first dose of ipecacuanha, four which had relapsed after full treatment with this drug, and six which had received previous treatment without cure resulting before coming under Dr. Storck's charge. These cases were each given magnesium sulphate as in the other two series, copper arsenite internally, and hot instillations of copper sulphate were given as in Series II. The time required to eradicate the *entameba h.* and to free the stools from mucus varied from five to twenty-five days, that is, a slightly longer time than in Series II. In eleven of the cases in which the prescribed treatment was faithfully carried out, none relapsed for six to ten weeks. The other two disappeared before the occurrence or non-occurrence of relapse could be ascertained. If they are classed as having relapsed, Series III gives a percentage of 15 5-13 of relapses.

All the patients were put to bed on beginning treatment, and whenever possible were induced to remain in bed until the *entameba h.* had disappeared from the stools.

We have thus, Series I, ipecacuanha treatment, 24 cases; relapses 25 per cent.

Series II, ipecacuanha and copper arsenite treatment, nine cases; relapses 11 1-9 per cent.

Series III, thirteen cases, copper arsenite internally; hot instillations of copper sulphate; thirteen cases; relapses 15 5-13 per cent.

The method of administering the instillations of hot copper sulphate is that suggested by Moulden, and is as follows:

The patient is placed upon an inclined plane that raises the buttocks twenty-five centimeters above the level of the shoulders, thus allowing for the complete distension of the entire colon, especially at the cecum where the *entamebas* are usually present in large numbers. By taking advantage of the fact that, as the majority of the weight of the solution is thus kept internal to the sigmoid flexure, a maximum distension of the entire colon is produced, while a minimum amount of pressure is brought to bear upon the rectum and its sensitive nervous mechanism, the colon is thoroughly irrigated through a double-flow colon tube, with sterile water, until the return is perfectly

clean. After draining off all the surplus water, the bowel is slowly filled with the hot copper solution by starting the reservoir on a level with the anus, and slowly elevating it as the gut accommodates itself to the pressure, thus distending it to its fullest capacity without contraction of the muscular walls. The temperature at which the instillations prove the most efficacious is from 106 to 110° F., the higher temperature being used as a rule in the worst cases. This temperature seldom causes annoyance, but on the contrary, acts as a sedative to the mucous membrane, improves the penetrative power of the copper, and brings about reaction. The patient usually retains the solution for twenty or thirty minutes. This procedure is repeated every twelve hours, and has been found to work well in practice, as it does not needlessly exhaust the patient. Under the copper treatment patients gain rapidly in weight, possibly due to some tonic action resulting from the absorption of the copper. Profuse perspiration frequently occurs, but no unfavorable results follow.

The strength of the solution used by the author on the cases reported was from 1:10,000 to 1:6000.

This report of Dr. Storck is exceedingly interesting, not only because it shows the relative efficacy of the ipecacuanha treatment in amebic colitis, but still more in proving the superior value of large doses of copper arsenite internally. As to the advisability of employing colon flushings with copper sulphate solution there can be no doubt, and the addition of the magnesium sulphate also does not require any support. If we were to suggest an improvement over Dr. Storck's method we would say that the unfavorable symptoms which he observed occasionally under the use of large doses of ipecacuanha could probably have been obviated by the administration of corresponding doses of emetin, which containing emetine and cephaeline, combines the active principles of ipecacuanha. It need not be given in such massive doses as does the crude drug, in order to obtain the same ipecac effect, and we would be interested to know whether Dr. Storck could not obtain better results in another series of cases by the substitution of emetin for ipecacuanha, or by the addition of emetin to the copper arsenite.

The sulphate of copper is an irritant in large doses and for stomach administration the best average adult dose is 1 12 grain. I have recently been experimenting with the sulphocarbulates of copper and would advise a trial of it in amebic dysentery, given by the mouth a milligram every hour, and employing for colonic irrigation solu-

tions of 1 to 4000, or a grain to half a pint. The antiseptic properties of this salt seem to be more decided than those of the sulphate, while the dose required to induce toxicity is larger. However, we have in the sulphocarbonate of zinc a remedy for amebic infection of the bowel, whose efficacy leaves little to be asked.

Amorphous emetin may be given in doses of one grain every eight hours. If administered in tablets, swallowed unbroken and without liquid, it very rarely induces nausea if the patient lies absolutely motionless thereafter for 20 or 30 minutes. But if pure alkaloidal emetine is used the adult dose should be 1-12 grain, in capsule, with five grains of bismuth subnitrate to delay absorption. This is preferable, since it is emetine which is desired and not cephaeline. The results seem better in proportion to the acuteness of the attack. In chronic amebic infections the benefit is less marked. Ipecacuanha has thus retained its place at the head of the remedies for dysentery, for which it was originally introduced. This paper, however, indicates that in copper it has at last found a rival. This will be welcome if confirmed, for the Rio ipecac is becoming extinct, and the drug has deteriorated in quality as it has risen in price. It might be worth while for the drug farmer to turn his attention to this plant, for since the extractor of alkaloids can utilize the whole plant, or all parts containing the active principle, instead of rejecting all but the part that is official, a great waste is stopped and drug plants are better worth cultivation.

Simplified Operations in Gynecology.*

By Dr. E. T. Dickinson, Wilson, N. C.

The number of remedies and operations for the relief of abnormalities in gynecology resembles that for the relief of the various varieties of malaria in the pre-cinchoric days. Until recently it was held by a certain class and accepted by all others that there was something mystical, except to the gynecologists, in the diseases of women. Now it is generally known that this branch of medicine also has a reasonable foundation. The most successful operations are the simple and easy ones, based on anatomical knowledge and physiologic repair. Any surgeon now can do them, and the former gynecologist is growing no more.

The most simple procedures have been worked out on rational lines from the most perplexing and fantastically described operations. I am yet sometimes confused with the college days' description of the famous

butterfly operation for lacerated perineum.

Instead of recognizing the complex butterfly fancy in any operation we now know that all lacerations of the perineum take place on the same general principle and may be repaired by a fixed operation.

The important structures lacerated and relaxed in a perineal tear are, in slight lacerations, the levator ani muscle and its loop of post vaginal fibers; in second degree tears the bulbo cavernosi and transversus perinei in addition; in complete tears the sphincter ani in addition.

The mere holding of these severed muscles together, approximately in their original position, under favorable conditions insures fibrous union and such anchorage as will give the muscle its original tone and contractility, which is the essential in perineal support rather than the firm perineal body that is so often desired. Thin perinei with muscles intact are quite as effective as those thicker with the same muscular attachment and tone.

In operations requiring this step the denudation is tedious, time consuming, and favors infection by exposing lines of suture within the vagina where they must be constantly soaked in vaginal secretions.

Until recently no attention was paid to the muscular structures of the perineum, although this muscular field was laid beautifully bare by the classic denudation, only the non-essential mucous membrane being united.

This tedium of denudation and liability to infection may be avoided in lacerations of all degrees by the one operation now commonly performed by surgeons.

The simple operation is done by making an incision through the line of juncture of skin and mucous membrane transversely between the anus and the vagina, the extremities of the incision being at the lowest caruncle on each side of the vagina. The mucous membrane of the vagina may then be easily separated and lifted from the muscular layers of the perineum and from the rectum by a few strokes with the blunt dissecting scissors or with the finger for the space of an inch or two. With a short needle and chromic catgut suture the desired portions of the separated levator ani muscles and fascia may be picked up and brought together with either interrupted or continuous stitches, this process of suture being continued until the entire space of the original perineum is filled in by muscle and fascia. Now a puckering string suture extending along the margin of the vaginal free border from caruncle to caruncle and tied makes a new floor for the vagina, and a similar suture placed along the anal free border and tied makes a new roof for the

*Read before the North Carolina Medical Society, Charlotte, N. C., June 20-22, 1911.

rectum. In cases of complete tears there is no difference in procedure except that the needle is made to dip down and catch up the ends of the sphincter ani in one or two of its revolutions. Finally the only remaining raw surface along the line of the median raphe may be closed with a few stitches.

The advantages of this operation exceed its simplicity. If cleanliness is observed during the operation there is little liability to the entrance of infection later. In this operation it is plain that the occurrence of recto-vaginal fistula is impossible. The original muscular structures, while they are sometimes unrecognized, are brought together in as nearly normal relation as would be possible under any method. No sutures are to be removed if all catgut material is used and the legs need not be tied together.

An operation that has been remarkably simplified and whose value has been greatly enhanced is the vaginal hysterectomy—the operation that has been almost completely discarded of late for the sake of exploratory laparotomy. The simplification and increased value comes mostly along the line of non-suture of the peritoneum in closing the wound. It was found that primarily suture of the peritoneum was unnecessary and secondarily that the great advantage of leaving a much longer and better suspended vaginal canal was secured. By packing gauze in the peritoneal cavity to fill the original space occupied by the cervix uteri such adhesions are secured above the gauze between the bladder and the rectum as to give the space occupied by the gauze to the vagina.

Advantages are given in cases of cystocele or rectocele by this adhesion between the bladder and rectum which holds up the cystocele or the rectocele.

Another operation that has been rationalized and simplified is that for suspension of the uterus. Alexander's operation is undoubtedly on the right principle and has stood every design that the imagination could fancy. But in cases where the abdomen has been previously opened for exploration or other cause, then a perfect principle may be put into effect by drawing a loop of the round ligament from near the uterus up under the anterior peritoneum of the broad ligament laterally to its reflection upon the abdominal wall and thence through the muscular wall into which it is attached with the proper tension.

These are the operations that I have seen simplified and based on rational principles and which, I believe, when faithfully performed do for the patient and the surgeon most approximately what is expected and promised. And these I believe by rational simplification will continue the reform

throughout the long list of gynecological diseases.

Submucous Turbinotomy.

By M. M. Saliba, M. D., Wilson, N. C.

Before describing the technique of Submucous Turbinotomy, let us first briefly review the functions of the nose, which are olfactory, phonatory, respiratory, gustatory, and the ventilation of the accessory sinuses. The gustatory is of least importance and it complements the sense of taste. The olfactory is of secondary importance and is located in the upper portion of the nasal chambers or attic where the olfactory nerve is distributed. The phonatory is of tertiary importance, it enriches the voice by overtone. The nasal chambers and accessory cavities are of prime importance in voice production, and any obstruction from swelling of the mucous membrane, deflection, or other lesion of septum so materially alter the quality of the voice as to make it disagreeable and inartistic. The respiratory and ventilating functions are of the greatest importance.

The nasal chambers are more than mere tubes through which air is drawn into the lungs; they produce certain changes in the air which prepare it so that the normal transfusion of oxygen and carbon dioxide may take place through the walls of the air vesicles. The respiratory functions of the nose are: First to warm or temper to or nearly to the body temperature the air in passing through the nose. Second, to keep the inspired air in a state of saturation. The air is expended by the warmth of the nasal chambers, and its capacity to absorb the moisture is increased. Third, by the vibrissae and the moist mucous membrane to filter the air in its passage through the nose.

In passing over a heated surface the air is warmed directly in proportion to the amount of heating surface over which it must pass. Nature has therefore placed in certain portions of the nasal mucous membrane a tissue which can alter the area of its surface to accommodate itself to the varying conditions of the inspired air. The tissue which can thus contract and expend is the "cavernous or erectile tissue," and this cavernous tissue reaches its highest development in the median surface of the inferior turbinate and in the inferior surface of the middle turbinate—positions of the nasal chambers in the direct line of the current of inspired air. This cavernous tissue also reaches a high grade of development in the inferior portion of the inferior turbinate, and to a less extent on the anterior superior portion of the septum—the tubercle. It is thus evident that the inferior

and middle turbinates are highly functioning organs and their removal must be accompanied by loss of their functions.

Surgical interference should always be accomplished with respect to the location of the "cavernous tissue," care being exercised to avoid their destruction. In my humble opinion nothing does justify the removal of the turbinates in part or toto, except when it is done for the exploration of the different sinuses, for diseased or abnormal bone, or malignant growth; and even then, we must try to save as much as possible the mucous membrane covering them. I believe that all the pathological conditions of the turbinates in the exception, of the above mentioned are caused more or less by an abnormal septum and the treatment therefore should be first directed to the condition of the septum.

The technique of Submucous Turbinotomy is as follows: (1) Induce local or general anesthesia, local anesthesia with cocaine is preferable. (2) Make a vertical cut with the scissors at the anterior end, dividing the mucous membrane down to the bone. (3) Elevate the mucous membrane from the convex side by an elevator. (4) Divide the mucous membrane by a probe-pointed knife from within outwards. (5) Elevate the mucous membrane from the concave side. (6) Break off and remove the turbinate bone as far as necessary. (7) Smooth the edge of the bone. (8) Adjust the flaps of mucous membrane. (9) Pack the nose in case of severe hemorrhage (rarely necessary.)

This operation offers a few small technical difficulties which can, however, always be overcome.

Serum Diagnosis of Syphilis.

Ry J. W. Squires, M. D., Charlotte, N. C.

Serum diagnosis of syphilis was given to us in 1906 by Wasseryman, Neisser and Bruck. Since then a number of modifications of this reaction have been made. However, only one has stood the test of efficiency. This modification is that of Dr. Hideyo Noguchi of the Rockefeller Institute. Dr. Noguchi found that the anti-human haemolytic system was more accurate than the anti-sheep system, because there normally exists in human's blood an anti-sheep amboceptor, which in a certain percentage of cases will make a positive reaction negative, if the original Wasserman technique is used.

In this paper I shall discuss the technique and principles of the Noguchi modification of the ————reaction as I have used it more and think it more accurate than the original.

The principle of this reaction is based upon complement fixation involving two systems a hemolytic and bacteriolytic.

It is necessary to explain the formation of these systems before giving a description of the reaction.

It is known that the blood serum of a person suffering from an infectious disease contains substances termed anti-bodies or amboceptors. These anti bodies are thrown off or produced by the body cells upon being irritated by a germ or its toxin. In this way we are provided with an excellent means of protecting ourselves against infection, because the anti-bodies, thus formed, sensitized by complement, have a destructive action upon the germ. In other words, the bacteria are dissolved or destroyed by the action of the anti-body and complement. This process of bacterial destruction is called bacteriolysis. The substances reacting together to produce this reaction constitute the bacteriolytic system which consists of Antigen, anti-body + complement. The antigens in this instance is the invading germ, therefore, we may define antigen as any substance which when introduced into the body stimulates the formation of anti-bodies or amboceptors.

Complement is normally present in small amounts in all serum and simply acts as a sensitizer to the anti-body so that it may destroy the germ.

Homologous with this system is the hemolytic which differs in that its antigen consists of red blood cells which when injected into a rabbit causes the formation of amboceptors. These when sensitized by complement cause the laking of red blood cells. This destruction of red blood cells is called hemolysis. The substances producing this change constitute the hemolytic system which consists Antigen, amboceptor and complement.

To sum up: In serum diagnosis we deal with two systems, one a bacteriolytic, the other a hemolytic. We speak of amboceptor when referring to the hemolytic system, and anti-body when referring to the bacteriolytic system.

The detection of syphilitic anti-bodies in the blood serum of a patient is simply an application of these two systems.

The bacteriolytic being used to fix the specific anti-body, if it is present. The hemolytic acting simply as an indicator to tell whether or not the reaction has taken place.

The factors concerned in the reaction are: Antigen, specific anti-body, Complement, Hemolytic amboceptor and Human corpuscles.

The first is an alcoholic extract of certain tissues, the commonly used being heart,

liver or kidney; this extract being tested and standardized according to certain rules.

The second, specific anti-body, is supposed to be present in the patient's blood we are testing.

Third, Complement, is obtained from the serum of the guinea-pig.

Fourth, Hemolytic amboceptor, is obtained from the rabbit, following successive injections of human corpuscles at definite intervals.

Fifth, Human corpuscles, washed and freshly prepared.

Having a through knowledge of the mode of preparation and use of the agents entering into the reaction, the technique is comparatively simple, and is as follows: Select a test tube rack containing two rows of holes; as for each test, two test tubes are required, one in front and its control in the rear.

First: place a drop of the serum to be tested in both tubes.

Second: Two units of antigen are added.

Third: Two units of complement.

Now, incubate the tubes at 37°; Centigrade for one hour. At the expiration of this time, the fourth and fifth factors are added, which are amboceptor and human corpuscles. Then the tubes are again incubated for one hour. After this second incubation the reaction is complete and is ready to be recorded. If we have a positive reaction, there is total inhibition of hemolysis, that is, the corpuscles have gravitated to the bottom of the tube and a clear fluid is seen above. If a negative, reaction, hemolysis has taken place, that is, the corpuscles have been completely disintegrated and fluid presents a deep, pinkish red transparent appearance. The reaction is very clear-cut and can be read unmistakably by anyone.

As previously stated in this paper, the reaction depends upon two systems, a bacteriolytic and hemolytic. Some may ask why we add this second system. It is because the bacteriolytic system alone gives no indication of what has taken place; therefore; we are compelled to add this second system, to tell us whether our complement has been fixed by the specific antibody for which we are testing.

Now as to the value of this reaction from a clinical standpoint; it has proven itself to be as certain, and it is not exaggerating to say, surpasses any serum reaction used in the practice of medicine today, and in cases presenting vague uncertain symptoms, the reaction is of untold value.

I dare say there is not a physician here who has not had the pleasure of attempting to solve the problem. When can I dismiss my patient and assure him that he is en-

tirely clear of this disease?" Or, if not this no doubt you have been consulted by patients, who give a history of syphilis ten or twenty years previous, and now desire to have position advice in regard to their condition. In cases presenting vague, uncertain histories, in different forms of late syphilis and as a differential diagnosis from other diseases, the serum reaction is the only positive means of answering these troublesome problems. Can we clear up these uncertain diagnosis? Is it possible to dismiss a patient and assure him that no danger would attach should he desire to matter? I maintain that we can. This reaction if intelligently performed, gives absolute proof as to a syphilitic infection. I predict that in the course of a few years the serum diagnosis of syphilis will be universal.

Danger Due to Substitution.

Hardly another of all the preparations in existence offers a wider scope to imposition under the plea of "just as good" than the scientifically standardized Eucalyptol.

The most recent fraud practiced in regard to this product is an attempt to profit by the renown of Sander & Sons. In order to foist upon the unwary a crude oil, that had proved injurious upon application, the firm name of Sander & Sons is illicitly appropriated, the make-up of their goods imitated, and finally the medical reports commenting on the merits of their excellent preparation are made use of to give the desired lustre to the intended deceit.

This fraud, which was exposed at an action tried before the Supreme court of Victoria at Melbourne, and others reported before in the medical literature, show that every physician should see that his patient gets exactly what he prescribed. No "just as good" allowed.

"Solution of Albuminate of Iron" (Liquor Ferri Albuminatis, Flexner.) Contains 13% Alcohol. Each teaspoonful of this preparation represents one grain of Dry Albuminate of Iron in permanent solution. A most valuable form of Iron Tonic. Prepared by Robinson-Pettet Co., incorporated, Louisville, Ky. (See page xiv this issue.)

Dr. G. F. Thigpen, a prominent physician of Bethel, N. C., died at his home on August the 27th. He graduated from the Medical Department of the University of Maryland, having received his degree from that institution in 1903.

Dr. Thigpen, after securing his license to practice medicine, located at Bethel, where he has been quite successful as a practitioner, and his untimely death is a great loss to his community.

Charlotte Medical Journal

Published Monthly.

EDWARD C. REGISTER, M. D., EDITOR
CHARLOTTE, N. C.

SEMITIC TRAITS.

When Omar captured Alexandria it is said that he was consulted as to the disposal of the great library, and that he replied: "If the books agree with the Koran they are superfluous; if they do not they are evil." And thereupon these priceless collections were destroyed. The story is apocryphal, but it is scarcely needed to illustrate the fact that intolerance was a characteristic of the Semite then, and since.

Study the Hebrew in the light of Holy Writ, and this same trait stands out in bold relief. The attempt to exterminate the inhabitants of Canaan, men, women and children, and even the cattle, does not appeal to modern ideas of warfare or conquest. When Ezra returned from the Captivity he called on those who had wedded with non-Hebrews to leave wife and children and separate absolutely, on pain of being themselves shut out of the faith and nation. In later days the mob that in sudden waves of emotion called on the rabble to crucify those who had been their idols but a short time previously, showed the same tendency to go to extremes. Josephus describes his fellows as an undisciplined, ungovernable rabble, apt to fly off the handle at the slightest whim, requiring the extreme of astute management to keep them within reasonable control. It was an immense relief to him when he was at last enabled to slunt the whole horde, and take refuge under this settled but consistent tyranny of Rome.

Are we far wrong in setting up the postulate that the modern Semite resembles his ancestors in his tendency to intolerance, to an impatient with conditions he concludes to be wrong and an instant demand for a change, regardless of any deeper or wider consideration of the questions involved?

Modern life and society have an intricacy not apparent to the superficial student. A man is killed by a train on a surface railway in the city. The demand at once goes up for elevation of the tracks. The way to elevate is to elevate—but how? The railway in question crosses several others, and they must also be raised at the same time. It runs into a depot with several others and they must participate; and all these cross others, so that elevation of one necessitates raising practically all in the city. But

some of these are rich, others may be in the hands of receivers, and where is the money to come from the bankrupt roads? Neither can be compelled to do more than its share.

In time these difficulties will be adjusted and all the roads elevated—but it requires time, and meanwhile the intolerant is railing at the authorities and the roads because it is not done on the instant moment the need is felt.

Intolerance is by no means a trait of the Hebrew exclusively—very, very far from it; but it does seem to be especially characteristic of him. Accordingly, when we read of Mr. Abraham Flexner's radical, wholesale denunciation of that medical education he never enjoyed, and his proposal to absquatulate nearly all the medical colleges of America, despite the rather inconsiderable fact that between them they created the medical profession of America, we recollect that Mr. Flexner can not avoid the mental predilections and characteristics that come to him from his forbears. We would like to ask him if, from the bottom of his heart, he really believes that Jehovah is the Creator and Diety of the whole human race, or only of the descendants of his own Father Abraham?

ANTI-TYPHOID TREATMENT AS A PREVENTATIVE FOR TYPHOID FEVER.

In 1908 the British vaccinated about six thousand of their soldiers in India, and maintained nearly an equal number of non-vaccinated men. The vaccinated and the non-vaccinated were treated similarly so far as their environments were concerned. The result was that seven times as many of the non-vaccinated men contracted typhoid fever, and eleven times as many died of it. In other words, as many of the non-vaccinated soldiers died of this fever as were taken sick among the vaccinated men.

During the Civil War, the Union Army had over eighty thousand recognized cases of typhoid fever among its soldiers. The Germans, during the French and German War, in 1870 had over seventy-three thousand cases of this disease, with nine thousand deaths, within six months time. Then again during the Spanish-American War, the Americans had 20,738 cases of typhoid fever, with 1,580 deaths, when there were only 108,000 men in their army, or one man in every six had the disease within three and a half months time.

Typhoid fever caused nine-tenths of all deaths occurring among troops encamped in the United States in 1898. Apparently this decrease in the death rate, due to this disease, among soldiers, is due to the anti-typhoid treatment.

Major Russell, who has made a specialty

of this kind of work, was sent to England and Germany to study the method and report upon it. His report so thoroughly endorsed it, that the Surgeon General, about two years ago, convened a Board composed of a number of the foremost medical scientists in this country to study the matter and to make recommendations as to the employment of the procedure in our Army. These are their conclusions, made unanimously:

"First: The Board is convinced that the practice of antityphoid vaccination is both useful and harmless and that it offers a practical means of diminishing the amount of typhoid fever in the Army, both in times of peace and war.

"Second: It finds that the experience to date with antityphoid vaccination justifies it in recommending the introduction of the practice in the regular and volunteer armies in time of war.

"Third: It recommends the immediate introduction of the practice of voluntary vaccination in the Hospital Corps, the Army Nurse Corps and in any expedition of troops from the regular Army which is ordered to take the field for active operation; and further, that an opportunity be given to volunteers from the Army as a whole to be protected by vaccination against typhoid."

At the time this Board of Scientists met, 35,000 men in the German and British Armies had been vaccinated, with no bad results to any of them but with remarkable results in the prevention of typhoid fever.

DYSENTERY CARRIERS.

These are divided into two classes. The first consists of individuals who have never suffered from the disease, and who are apparently in good health, but harbor and scatter the specific organism. The second class are individuals who have suffered with this disease and who are unable to eliminate completely the infection. This class of semi-invalids spread the disease much more frequently than is now believed. The danger that this class of individuals is to the neighborhood cannot well be overestimated in importance.

These germ carriers are almost as dangerous to a neighborhood as the typhoid carrier. They harbor infection indefinitely and scatter it as promiscuously as the typhoid carrier.

Many observers emphasize the need of isolation, observation and care during convalescence as a means of prevention of spread of dysentery epidemics.

THE USE OF SALVARSAN IS NOT WITHOUT DANGER.

It has been stated by several very eminent observers, among them Dr. Hutchinson of London, that it is possible for cancer

to follow the use of salvarsan. Dr. Hutchinson was once a frequent prescriber of arsenic and noted in a number of cases the subsequent development of various forms of malignant disease. Dr. Hutchinson also has in his possession letters from friends who have observed the same unpleasant experiences. This experience of Dr. Hutchinson's has led him to prescribe arsenic very seldom and only in cases in which the remedy is especially demanded.

This distinguished specialist warns his colleagues against the careless use of this remedy for syphilis. He states that little has been claimed for it that is new—that is superior to mercury and the iodides, when properly and wisely used.

INDIVIDUALITY AND CANCER.

In the report of the Imperial Cancer Research Fund fresh remarks are made upon the subject of individuality and cancer. It is stated that tumors of the "transplantable" type grow as well in normal animals as they do in animals in which spontaneous cancer has arisen. So far as the "transplantable" tumors are concerned it is obvious that the soil provided by an animal affected with cancer presents no substantial differences from that of a normal animal. In the case, however, of a cancer which has spontaneously arisen, not only can it not be inoculated into a normal animal but apparently it rarely grows in an animal in which cancer has also spontaneously arisen. Portions of a cancerous tumor, on the other hand, grow readily when inoculated into the animal in which the tumor has originated. These facts are considered to put the question of "the individuality of cancer beyond all further discussion." The teachings of naked eye morbid anatomy and microscopical examination of tissues affected with cancer in the human subject seems therefore to be borne out by experimental investigation. The report adds that the genesis and the growth of cancer are distinct phenomena which should be separately investigated. The subject of the influence of irritation is briefly referred to. The forms of irritation which predispose to cancer apparently are many and varied, but a form of irritation effective in one case is ineffective in another. Thirty-five different "tumor strains" have been now growing for over three years. It is stated that the one feature all these strains have in common is the power of continuous growth, in spite of the most divergent structure and of extremes in the rate of growth varying from an almost explosive rapidity to one much inferior to that of embryonic tissue. Study of the behavior of these various strains is considered to yield "objective evidence of

the validity of the conclusion that the cancer-cell is a biological modification of the normal cell endowed with many inherent properties of the latter."

DR. FRANK PIERCE FOSTER DEAD.

On August the 13th Dr. Frank Pierce Foster, who for the past thirty-one years has governed the editorial department of the New York Medical Journal, died in Chadwick, N. J. Dr. Foster suffered for the past three years and especially for the past few months from cancer of the throat, which caused his death.

Dr. Foster was born in Concord, N. H., on November the 26th, 1841. In 1859 he entered the medical department of Harvard University, taking his degree of doctor of medicine, however, in the College of Physicians and Surgeons, New York, in 1862. In 1870 he introduced the manufacturing of cow vaccine into America under the auspices of the New York Dispensary. Three years later, in 1873, he went to London and, upon invitation, delivered a lecture before the British Medical Association on vaccination. Soon after his return to New York he was offered the chair of obstetrics at Yale University, which he declined.

January 1, 1880, Dr. Foster assumed the editorship of the New York Medical Journal; and it may be said with no violation of the rules of truth that he was the greatest editor that America has ever produced, with the exception, possibly, of the late Dr. Shrady, who for a long time was editor of the Medical Record.

EDITORIAL NEWS ITEMS.

Dr. D. W. Bullock, Sr., and Dr. Ernest S. Bullock, Jr., have formed a partnership and will practice medicine and general surgery in Wilmington, N. C.

At a called meeting of the Henderson-Polk County Medical Society, held in Hendersonville, N. C., on August the 29th, the physicians made their first plans for the entertainment of the members of the North Carolina Medical Society, which meets in Hendersonville in June, 1912.

The following is a list of the committee on arrangements: Dr. A. B. Drafts, Dr. W. R. Kirk, Dr. J. R. Williams, Dr. G. E. Dixon and Dr. L. B. Morse, of Hendersonville; Dr. E. McQ. Salley, of Saluda, and Dr. W. M. Lyday, of Penrose, N. C. All the physicians of the county society are appointed on the reception committee. The finance committee is composed of Mr. J. C. Morrow, Dr. J. R. Williams and Dr. L. B. Morse.

This society has already appropriated \$200.00 as the first subscription to the entertainment fund, and everything points to a very pleasant and successful meeting at Hendersonville.

The physicians of Hendersonville are enthusiastic workers, and we feel sure that no pains will be spared to make this the best attended and most profitable meeting this society has had for several years. This is the first time they have had the pleasure of entertaining the State Society.

At the semi-annual examination for license to practice medicine in Alabama, held in Montgomery, July 11-14, there were eighty-nine successful applicants. Of the eighty-nine two were negroes.

The following list is only a part of those receiving license, giving the names of the colleges from which they graduated, and also their post-office addresses:

Robert F. Feemel, Tulane University, Guntersville, Ala.; Robert P. Morrow, Medical Department of University of Alabama (Mobile), Faunsdale, Ala.; Dan C. Donald, Tulane University; Bessemer, Ala.; Hardy D. Havard, Medical Department University of Alabama (Mobile), Citronelle, Ala.; McCain Robinson, Tulane University, Lowndesboro, Ala.; Eugene H. Rencher, Medical Department University of Alabama (Mobile), Oak Grove, Ala.; Joseph G. Donald, Tulane University, Marion Junction, Ala.; William A. Padgett, Medical Department University of Alabama (Mobile), Mobile, Ala.; Alvin Dow Powers, Medical Department University of Alabama (Mobile), Elkmont, Ala.; Alexander McG. Foshee, Medical Department of University of Alabama (Mobile), Cahasset, Ala.; Harry K. Goodloe, Vanderbilt University, Gainesville, Ala.; Curtis Johnson, University of Tennessee, Meltonsville, Ala.; Lucian M. Tompkins, University of Tennessee, Fitzpatrick, Ala.; Hugh F. McLaurine, Vanderbilt University, Fitzpatrick, Ala.; Clarence E. Cowan, Medical Department University of Alabama (Mobile), Cunningham, Ala.; John A. Smith, Medical Department University of Alabama (Mobile), Melvin, Ala.; Guy Jennings Dunning, Medical Department University of Alabama (Mobile), Mobile, Ala.; Ernest M. Hyatt, Medical Department University of Alabama (Mobile), Blountsville, Ala.; Leo P. Milligan, Georgetown College, Huntsville, Ala.; Fount R. B. Coggin, Medical Department University of Alabama (Mobile), Lafayette, Ala.; Bert Tillery, Tulane University, Phoenix, Ala.; Lewis

E. Bayles, Medical Department University of Alabama (Mobile), Rogersville, Ala.; Clarence L. Horton, Tulane University, Aliceville, Ala.; Elias D. Busby, Birmingham, Medical College, Parrish, Ala.

Seaboard Medical Association.

Dr. Clarence Porter Jones has announced that the next meeting of the Association will be held at Newport News December 5-7, 1911.

Deaths.

The superintendent of the Anderson County Hospital, Anderson, S. C., was buried to death by the explosion of a lamp on August the 7th. The lamp was one that they used in heating the sterilizer.

Dr. Jno. Knox, a very prominent physician of Mecklenburg county, N. C., died at his home in Steele Creek township on August the 23rd, aged 61 years.

He had been in bad health for quite a while, and his death was not unexpected.

Dr. Knox received his medical degree from the South Carolina Medical College in 1877, and after receiving his license to practice medicine he located in the Steele Creek neighborhood, where he has remained since that time, and where he had built for himself a large and lucrative practice.

Dr. Knox was a member of the Mecklenburg County Medical Society, and also the North Carolina State Medical Association. His presence will be greatly missed from both of these organizations.

Dr. Knox was the father of Dr. Jno. Knox, Jr., of Lumberton, N. C.

BOOK NOTICES.

A Manual of Clinical Diagnosis by Means of Laboratory Methods. For Students, Hospital Physicians and Practitioners. By Charles E. Simon, M. D., Professor of Clinical Pathology and Experimental Medicine in the College of Physicians and Surgeons, Baltimore. Seventh edition, enlarged and thoroughly revised. Octavo, 780 pages, with 168 engravings and 25 plates. Cloth, \$5.00 net. Lea & Febiger, Philadelphia and New York, 1911.

The new edition of this standard work contains a strikingly original feature which will distinguish it from the host of books that have followed since it began almost as a pioneer. Hitherto the plan of all works in this field has been confined to the exposition of laboratory methods of diagnosis, the applications following incidentally and

without systematic grouping. The development of exact methods has now reached a point justifying a new departure, which has long been in the author's mind, but which hitherto seemed to offer insuperable difficulties in exposition. He has found a solution of this problem, and now presents, in a wholly new section occupying nearly half of the work, the laboratory diagnosis of each disease, arranged under its name in alphabetical order, so that the reader desiring to compare a case with the diagnostic picture of a disease can at once find it given systematically and connectedly, instead of having to piece it out from scattered sections as heretofore. The ease of thus utilizing precise methods is obvious. The previous edition, consisting entirely of methods, has been thoroughly revised and condensed into the first section of this new edition, so that the physician and student now have at command in a single volume the whole subject ideally completed. The two parts are cross-indexed, so that the reader can use the book in either direction, whether he desires to proceed from methods to their application, or from the diagnostic pictures to the methods of making the various tests. This new edition therefore bridges for the student the hiatus between the laboratory and the bedside, and it serves the physician equally well in stepping in the opposite direction, from his actual cases to the methods of accurate diagnosis.

A Manual of Practical Hygiene. For Students, Physicians and Health Officers. By Charles Harrington, M. D., late Professor of Hygiene in the Medical School of Harvard University. Fourth edition, revised and enlarged by Mark W. Richardson, M. D., Secretary to State Board of Health of Massachusetts. Octavo, 850 pages, with 124 engravings and 12 full-page plates, in colors and monochrome. Cloth, \$4.50 net. Lea & Febiger, Philadelphia and New York, 1911.

The medical profession may advisably take note of the growing public interest in all matters pertaining to the maintenance of health, an indication that the physician is now expected to be quite as expert in preventing disease as in curing it. In fact, the intelligent portion of the laity is becoming exceedingly well informed on matters of hygiene, and it behooves the profession to lead instead of being pushed along its own ground. Fortunately it has at hand in the new edition of Harrington's Hygiene a standard authority, thoroughly revised to date, complete in every department and detail and easy and delightful to read. It is one of the rare books that survive their authors and so prove their own vitality and

intrinsic worth. Dr. Harrington was professor of hygiene at Harvard Medical School and secretary of the Massachusetts Board of Health, thus occupying didactic and executive positions of the highest eminence. Overwork led to his lamented death in the fullness of his powers, but he left his book partly revised in anticipation of the demand for a new edition, which has been fully realized. His revision has been most fittingly completed by Dr. Richardson, his successor on the Massachusetts Board of Health, and the book now goes forth again as the standard exponent of the latest developments in the whole vast range of subjects included in its title.

Manual of the Diseases of the Eye. For Students and General Practitioners. By Charles H. May, M. D., Chief of Clinic and Instructor in Ophthalmology, College of Physicians and Surgeons, Medical Department, Columbia University, New York, 1890-1903. Attending Ophthalmic Surgeon to the Mt. Sinai Hospital, to the French Hospital, to the Red Cross Hospital and to the Italian Hospital. Seventh Edition, Revised. With 362 original illustrations, including 22 plates, with 62 colored figures. New York: William Wood & Company. 1911. Price, \$2.00.

We are glad to have the pleasure of reviewing a little book that we consider of so much worth as this one. Its popularity is to some extent indicated by the fact that the seventh edition has been called for.

The author has been very careful in his effort to make this work complete, and of interest and value to the medical profession. Every page has been carefully examined, many alterations have been made, and numerous paragraphs added on subjects such as Trachoma Bodies, Lagrange's Operation for Glaucoma, The Use of Salvarsan ("506") in Syphilitic Ocular Affections, Injections of Tuberculin, Kronlein's Operation, etc.

A new chapter on "The Ocular Manifestations of General Diseases" appears in this edition.

The illustrations in this volume are above the ordinary. The binding is neat and attractive, and the entire volume is very complete.

The Practical Medicine Series. Comprising ten volumes on the year's progress in Medicine and Surgery. Under the general editorial charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology Chicago Post-graduate Medical School; Charles L. Mix, A. M., M. D., Professor of Physical Diagnosis in the Northwestern University Medical

School. Volume 5. Obstetrics. Edited by Joseph B. DeLee, A. M., M. D., Professor of Obstetrics Northwestern University Medical School. With the collaboration of Herbert M. Stone, M. D. Series 1911. Chicago: The Year Book, Publishers, 180 N. Dearborn Street. Price, \$1.25.

It is very encouraging and gratifying to note the amount of investigation that is being done in obstetric problems.

A significant indication of the trend of modern medicine is the greater attention which is being paid to this subject by the colleges and the medical societies. This volume, while small, will be found invaluable to the medical profession. It is divided into four parts, as follows: Part I, Pregnancy; Part II, Labor; Part III, The Puerperium; Part IV, The Newborn.

This volume is neatly bound, and will be found of value to the profession.

One Hundred Surgical Problems. The experiences of daily practice dissected and explained. By James G. Mumford, M. D., Visiting Surgeon to the Massachusetts General Hospital; Instructor in Surgery, Harvard Medical School; Fellow of the American Surgical Association, etc. Octavo, 354 pages. Price, \$3.00. Boston: W. M. Leonard, publisher. 1911.

This volume presents one hundred selected cases, well classified in groups to show the phases of each subject, with statement of symptoms and thorough discussion leading to Diagnosis, Treatment and Results.

Of the value of this kind of book there is no question. As the Preface states, "The method in proper hands is luminous and the lessons instantly comprehensible."

Certain groups of cases, as those of the Stomach and Duodenum, Graves' Disease, Digestive Disorders are worthy special mention. In the last named series are ten full page X-Ray plates showing ptosis of the large intestine. These are equally valuable to the internist and the surgeon, and superior to any work published up to the present in this field.

Each Case History has been thoughtfully considered and well-written,—in accord with a style which Dr. Mumford has made his own. The book comprises a valuable Post-Graduate Course in Surgery presented in most interesting form.

This work will be invaluable to surgeons and their assistants, and it is with a great deal of pleasure that we recommend it to our readers.

A Text-Book of Alkaloidal Therapeutics. Being a condensed resume of all available literature on the subject of the active

principles added to the personal experience of the authors. By W. T. Waugh, M. D., and W. C. Abbott, M. D. Third Edition. Revised and Enlarged. Chicago: The Abbott Press. 1911.

The authors of this book have long recognized the need of a work upon Alkaloidal Therapeutics which should be as complete as the present knowledge of the subject will permit, hence this book, whose success is shown by the appearance of another edition.

The authors say in their preface: "The Alkaloidal idea is 'in the saddle,' its phenomenal growth in the face of active opposition and without the 'weight of authority' to give it standing, is the strongest evidence of its vitality."

To the physicians who practice Alkalometry, this volume will be of great value, and of course it will also be beneficial to the general practitioners.

Neither the authors nor the publishers have spared any pains in making this volume very attractive, and up-to-date in every way.

The book contains 762 pages of carefully indexed, well bound, reading matter. It certainly gives the reviewer a great deal of pleasure to recommend this work to the readers of the Charlotte Medical Journal, and we wish to thank Drs. Waugh and Abbott for this most excellent volume.

What to Eat and Why. By G. Carroll Smith, M. D., Boston, Mass. Octavo of 310 pages. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, \$2.50 net.

The author has made an effort to place before the medical student, and particularly the active, busy practitioner, a book describing the fundamental elements of food and the principles underlying its use, the essential reasons why a change of the diet in certain diseases is desirable, and how this change may be made in the most practical, time-saving way.

Only the diet in the most important diseases are discussed in this volume, as the others will be treated properly, if the principles underlying the treatment of the former are understood.

Only a few diet lists are given, but each one is sufficiently comprehensive to cover the many different phases of the same disease.

We consider this book of very great value to the medical profession, the trained nurse and the dietitian. It is substantially bound, carefully indexed, and in every way it seems to measure up to the author's high ideal.

Insects and Diseases. A Popular Account

of the Way in Which Insects May Spread or Cause Some of Our Common Diseases. With Many Original Illustrations From Photographs. By Rennie W. Doane, A. B., Assistant Professor of Entomology, Leland Stanford Junior University. New York: Henry Holt & Company, 1910.

This little book is intended to bring together and place in untechnical form the most important of the facts he has gathered from newspapers and magazines on the subject of insects and their relations to human diseases. The book is very interesting, and will be found of value not only to the physician, but also to the general public. With its neat binding, numerous illustrations and careful make up, the book is very attractive in its appearance.

A Text-Book of Chemistry for Students and Practitioners of Medicine, Pharmacy and Dentistry. By Edward Curtis Hill, M. S., M. D. Second thoroughly revised, rewritten and considerably enlarged edition. With one hundred illustrations in the text and 14 full-page half-tone and colored plates. Philadelphia: F. A. Davis Company, Publishers. 1911.

The author has made an effort to make this book equally serviceable before and after graduation. In preparing the present revised edition, the author has endeavored to make it conform with the latest authoritative knowledge.

The entire manuscript has been thoroughly revised, and many new subjects discussed in this volume.

Quite a number of new and original tables and colored plates have been included, and the publishers have employed their customary care and skill in making the volume typographically correct.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pædiatrics, Obstetrics, Gynæcology, Orthopædics, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest to students and practitioners. By leading members of the Medical Profession throughout the world. Edited by Henry W. Cattel, A. M., M. D., Philadelphia, U. S. A., with the Collaboration of Wm. Osler, M. D., Oxford; John W. Musser, M. D., Philadelphia; A. McPhedran, M. D., Toronto; Frank Billings, M. D., Chicago; Chas. H. Mayo, M. D., Rochester; Thos. H. Rotch, M. D., Boston; John G. Clark, M. D., Philadelphia; James J. Walsh, M. D., New York; J. W. Ballantyne, M. D., Edinburgh; John Harold, M. D., London; Richard Kretz, M. D.;

Vienna; with regular correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels, and Carlsbad. Volume two. 21st Series, 1911. Philadelphia and London: J. B. Lippincott Company, 1911.

We are glad to say to our readers that the second volume of series number twenty-one, 1911, of *International Clinics* is now out and on sale for \$2.00 per copy.

It is needless almost for us to comment on the value of this volume, because it is so closely related to the former volumes of this work until it cannot but be of untold value to the medical profession. The contributors to this volume are numerous, and we can justly say that this is one of the best volumes yet issued.

The binding is neat and attractive, and the illustrations and figures are of a high type.

The Prodigal Judge. By Vaughan Kerter, author of "The Fortunes of the Landrays," etc., with illustrations by M. Leone Braker. Indianapolis: The Bobbs-Merrill Co., Publishers.

This is a most romantic and thrilling love story. The author's style of writing is quite entertaining and attractive.

The book is neatly bound, and the publishers have spared no pains in their part of its preparation.

Diseases of the Stomach. With Special Reference to Treatment. By Charles D. Aaron, Sc.D., M.D., Professor of Gastroenterology and Adjunct Professor of Dietetics in the Detroit College of Medicine; Professor of Diseases of the Stomach and Intestines in the Detroit Post Graduate School of Medicine, etc. Octavo, 555 pages, with 42 illustrations and 21 plates. Cloth, \$4.75, net. Lea & Febiger, Philadelphia and New York, 1911.

The author's objective has been to write a work on the purely practical aspects of gastric diseases, to limit himself to what is definitely known and to exclude mere speculation. Etiology, symptomatology, pathology and diagnosis are introduced so far as necessary to an understanding of the methods of treatment proposed, and space is therefore available for developing the therapeutic sections in full detail. Diseases of the stomach are so universal and are the starting point of so many other evils that every physician needs to be posted on the latest advances attained in this highly progressive branch of medicine. These he will find authoritatively set forth in Professor Aaron's pages, together with previous knowledge that has stood the test of time, in a word, the whole subject as understood

at the present date. He has given the indications for surgical intervention, so that this recourse may be utilized only when necessary, and useless or injurious operations may be avoided. The author's very eminent position in the ranks of American gastroenterologists will attract wide attention to his important work, which will not disappoint expectations.

Lippincott's Magazine.

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His Hand and Seal. A Complete Novellette. Carolyn Wells.

Reminders. Epigrams. John Kendrick Bangs.

High Lights of South America. A Special Article. Forbes Lindsay.

The Friendship of Alabama. A Story. Kathleen Norris.

The Curtain. A Story. J. J. Bell.

Night. A Poem. Charles Hanson Towne.

Flavia Swims. A Story. Sigmund Spaeth.

In the S. P. C. A. Ambulance. A Poem.

Emily Sargent Lewis.

Amateurism in Sports. A Special Article.

Luther Halsey Gulick, M. D.

Belief. A Poem. Mary Byerley.

Short Story Masterpieces: "The Pope's Mule," by Alphonse Daudet. Translation and introduction by the Editor.

Tomorrow's Song. A Poem. Theodosia Garrison.

Mary. A Story. Elizabeth Maury Coombs.

The Mother. A Poem. Mary Eleanor Roberts.

Colonel Copp's Finesse. A Short Story. Frank E. Verney.

Ways of the Hour: "Crime and Punishment," by Herman Scheffauer; "American and British Emancipation," by Eleanor Root; "The Decline of Lurid Melodrama," by W. Dayton Wegeforth; "Cordiality," by Ralph W. Bergengren; "The Servant in the House," by Minna Thomas Antrim; "Danger Ahead!" by Thomas L. Masson; "Railroad Accidents," by George L. Knapp.

The Lost Arrow. A Sketch. Jane Belfield.

Failure. A Poem. Pauline Carrington Bouve.

The Price of Victory. A Short Story. Frances Douglas.

The Death of Frisco Red. A Poem. Alfred Damon Runyon.

What Happened to Jackson. A Short Story. M. M. Hoover.

Financial Department: "What Chance Has a 'Lamb' in the Stock Market?" Conducted by Edward Sherwood Meade, Ph.D.

Like Other Birds. A Sketch. Bolton Hall.

Walnuts and Wine.

Twentieth Century Travel. Conducted by Churchill Williams.

Abstracts of the Leading articles of the month.

Sea Bathing.—Copeman (The London Practitioner) says that it behooves everybody to exercise caution on first arriving at the seaside if the weather is very hot. The unwonted exposure to the sun, the glare of the sea, and the chilling of the body frequently cause headache and nausea in perfectly healthy people. Those with feeble circulations should bathe only when the weather is very warm and the sea calm, and none but the very robust should bathe more than once a day. It is a common error to suppose that if the bather arrives at the water side heated by exercise he should wait till he has cooled down before entering the water. Per contra, it is most unwise to bathe when the body is already chilled, and the bather would do well to delay until some gentle exercise has restored the circulation. Continuous paddling cannot be too strongly discouraged. In view of the interest taken in the latest treatment by sea water plasma, it is worthy of note that over 100 years ago it was considered unwise to start on a course of sea bathing before the system had been "prepared" by a course of sea water drinking.

Tuberculosis in India.—Turner, in The Indian Medical Gazette, reports the following:

We are now in this position, that tuberculosis is spread by inhalation and ingestion of material infected with tubercle bacilli; that children chiefly do rapidly become infected with tuberculous milk, and that they contract intestinal tuberculosis, which may become pulmonary and general; that the most common cause of phthisis (pulmonary tuberculosis) in young people and adults, is by inhalation of material containing tuberculosis bacilli. This brings me to my point, namely, the possibility of children in India contracting tuberculosis both general and pulmonary from tuberculous cattle, either by milk or infected fæces and also by milk, infected by human agencies

1. Cattle in Bombay and presumably other parts of India do suffer from tuberculosis to a slight extent.

2. It is possible to infect milk by human agency owing to the habits and customs of the attendants and the method of distributing milk.

3. A possible source of infection is the fæces of infected cattle due to the intimate connection there is between the laboring class and the cattle and the enormous use

made of cowdung in the houses and surroundings.

The figures I have given show that the mortality from tuberculosis is higher in India than in England; that the milk and sputa examined show that there is risk of disseminating the tubercle bacillus, while the presence of the tubercle bacillus in the fæces of infected animals is a greater danger in India than in other countries. The argument that all milk is boiled before being used is applicable to any milk borne disease. The majority of people would prefer to know that the milk comes from healthy animals and is pure.

Prolapsus Uteri, Ventrofixation.—O'Connor, in The London Medical Lancet, says that permanent reliance cannot be placed on any method of suturing the fundus. He adopted the following procedure: The abdomen having been opened by a low central incision, the uterus is drawn forward with the left hand, and a small transverse cut is made at the site of the reflection of the peritoneum on the anterior surface of the uterus (exactly similar to the preliminary peritoneal incision in hysterectomy). With the handle of a knife or with the right index finger, the peritoneum with the bladder is pushed downward and forward, until a space about an inch square is left on the anterior surface of the cervix. The peritoneum on each side of the exposed area is seized with pressure forceps, and is retracted out of the way, while three strong catgut sutures are passed, about one-third of an inch apart, through the denuded surface of the cervix, deep enough to get a firm grip of the cervical muscular coat. The needles having been removed, the ends are drawn out, respectively, on each side through the recti muscles, by the aid of Child's ligative forceps. Thus the peritoneum is excluded, and the exposed cervical connective tissue is brought into direct apposition with the recti. Before tying these three fixation sutures, the author always closes the peritoneal layer of the parietal wound by a continuous catgut suture, the first few loops of which he passes also through the uterine peritoneum just above the denuded area, in order that no raw surface may be left for the omentum or the intestines to adhere to. The three cervix-recti sutures are next tied, and the muscles are approximated through the remainder of the incision by another catgut suture. The rectus sheath is similarly closed, and the skin is united by a subcuticular silk thread.

The Failure of Diagnosis. Niessinger (Brit. Med. Jour.) in discussing this matter, quotes the three causes advanced by Huchard to explain the non-success of digitalis

in certain cases. It may be due to (1) the administrator, (2) the drug, (3) the patient. The author deals only with the last of these. Suppose the patient to have been placed under the most favorable conditions for treatment, and the drug administered in the form of crystallized digitalin—which, according to Huchard is the best—and still refuses to react to the drug. What, the author asks, may be the reason. There may be a central obstacle in the form of excessive dilatation of the heart; a peripheral obstacle such as marked edema of the extremities, or a visceral barrier such as ascites or pleural effusion. The first of these may be dealt with by bleeding, or if the patient is weak by cupping over the precordium, with the administration in the form of injection of the iodide of caffeine night and morning. With regard to the second of these obstacles, edema of the extremities—the fluid is to be drained off under strict asepsis, while pleural effusion of ascites is suitably treated by paracentesis. If even then the myocardium does not respond to digitalis, there may be an advanced myocardial lesion, or too large doses of the drug have been given. Excessive doses of digitalis, such as 60 cg. of the infusion, lead only to undue excitation and contractility of the cardiac muscle. Such cases, indeed, offer less chance of improvement than the most grave myocarditis. In cases of edema, 5 drops of a 1 in 1,000 solution of digitalin may be given for five or six days running, along with theobromine. The digitalis is then suspended, but the theobromine is continued, and with this may be given iodide of caffeine. If there is still no result, recourse may be had to strophanthus during the day, with small doses of morphine in camphor oil at night. At the same time, repose in bed must be absolute and the dietary strict. The essential thing is to restore the lost contractility of the myocardium. After about ten days of this treatment, the heart often begins to contract more regularly, and then digitalis may be tried again in very small doses. If strophanthus does not succeed in the manner suggested, the author gives sparteine in conjunction with quinin for periods of five days alternated with periods of ten days, when the drug is not administered.

Simple Antiformin Method for Detection of Tubercle Bacilli in the Urine.—

Bachrach and Necker (*Wiener klinische Wochenschrift*) says that to obtain as much material as possible, the urine should be allowed to deposit the sediment in several conical glasses. To 20 cubic centimeters of the concentrated sediment are added an equal amount of 50 per cent. solution of

Antiformin and the mixture quickly boiled. To each 20 cubic centimeters of this mixture are added 3 cubic centimeters of a mixture of 10 parts by volume of chloroform and 90 parts by volume of alcohol, then thoroughly shaken and centrifugated. The chloroform collects in the tip of the centrifuge tube, and upon it, in the form of a small stratum, rests the sediment containing the bacilli which, after pouring off the supernatant fluid, is transferred to a slide, fixed with albumin-glycerin and stained. They used Weichselbaum's method of staining, which they regard as reliable. While the authors believe with Schuster that the smegma bacillus is destroyed by from 10 to 15 per cent. Antiformin solution, they always employ for bacteriologic examination urine drawn by catheter. They examined 37 urines, obtaining positive results in 25. The remaining 12 cases subsequently were shown to be from non-tuberculous subjects.

For demonstration of the pathogenicity of the bacilli obtained, 1.5 cubic centimeters of the sediment was inoculated subcutaneously in the inguinal region of guinea-pigs after the lymph glands had been crushed. After from 10 to 12 days the gland and infiltrated adipose tissue were extirpated, the material comminuted with sterile scissors and placed in 20 cubic centimeters of 15 per cent. Antiformin solution which completely dissolved the organic tissue in from five to six hours (sooner in the incubator). The suspension was then centrifugated and, after decanting the clear fluid, the sediment was spread upon one or two slides, dried in the air, fixed over a flame and then stained by Weichselbaum's method.

The Indications for, and Technique of, Cesarean Section and Its Alternatives, in Women with Contracted Pelves, who have been long in Labor and exposed to Septic Infection.—Routh (*Proc. Roy. Soc. Med.*) points out that obstetricians in every nation of Europe are seeking to find an operation which save the lives of infected cas. The ideal operation is free from the foetal mortality of craniotomy, from the maternal mortality of classical Cesarean section, from the morbidity of pelvotomy and extra-peritoneal Cesarean section, and from the sterilization which accompanies all forms of hysterectomy. The Dr. points out the enormous difference between the mortality of clean and the suspected cases. The clean cases had a mortality of 2.9 per cent., while in suspect cases it varied from 10.8 to as high as 34.3 per cent., averaging a percentage mortality of 17.3. Realizing the risk of the classical Cesarean section in suspect and septic cases, obstetricians had been continually inventing alternative

operations. It soon became evident that pubiotomy became dangerous to life, or was accompanied by enormous morbidity during convalescence if patients were septic. To avoid the alternatives of craniotomy or Cæsarean hysterectomy, the endeavor had been made to avoid opening the peritoneal cavity by the so-called extra-peritoneal Cæsarean section. Sellheim, believing that all extra-peritoneal Cæsarean sections are dangerous in infected cases, has more recently advocated the formation of a utero-abdominal fistula in cases of undoubted infection. The disadvantages of the extra-peritoneal operation are pointed out. *Indications for Treatment.*—In considering treatment, certain clinical groups are assumed and the appropriate treatment discussed. Suspect cases are divided into five classes: 1. Cases which have been exposed to infection, but where the membranes are not ruptured. Germs carried into the vagina by previous examinations could almost certainly be rendered harmless by copious vaginal douches of 1 in 1000 sublimate or biniodide of mercury solutions. 2. In labor some hours, membranes ruptured, vaginal examinations made, no pyrexia, no offensive discharge. If a bacteriological report could be obtained that the liquor was sterile, a classical Cæsarean section could be safely done, though some would prefer to evert the uterus before incising the uterus, as the woman had been previously examined. If germs were found it would be dealt with as type 3, 4, or 5 according to the germ found. 3. In labor some hours, membranes ruptured, examination made or attempts at delivery, some offensiveness of discharge, possibly some pyrexia. Assuming saprophytic organisms are found in the liquor amnii, but no pathogenic organism, primary union of the uterine wound would fail, and unless an utero-abdominal fistula formed, fatal peritonitis would ensue. Seeing that the classical Cæsarean operation has a mortality of from 10.8 to 34.3 per cent., craniotomy or some variety of Cæsarean hysterectomy remains. Reference is made to an alternative prophylactic procedure adopted by Maxwell, of Queen Charlotte's Hospital, in doubtful cases of infection where the membranes are ruptured, performing Cæsarean section. A soft pewter or pliable tube is passed up per vaginam to the fundus uteri and the amniotic cavity, and incidentally the fœtus freely irrigated with normal saline solution at 100° F. A saturated solution of boracic acid would be more useful if micro-organisms were present. The method might also be employed before craniotomy to dilute any suspected infection in the amniotic cavity, and so reduce the risk of infection of tissues abraided dur-

ing the operation. If Maxwell's method does not prove reliable, and there is no constitutional or bacteriological evidence of infection by virulent micro-organisms, it is probable that craniotomy would be the best treatment, for at this stage the infection is recent, the germs few, and the placental site and decidual membrane are protected by the membranes from infection. If craniotomy were decided upon, the amniotic cavity could be irrigated before and after the birth of the child, and after the third stage the decidual cavity can be freely irrigated with iodized water and the risk of infection minimized. If Maxwell's method proves reliable it would largely prevent craniotomy with living children in those suspect cases where it could be shown bacteriologically that there was no virulent infection present. 4. In labor many hours, membranes ruptured, frequent examinations made or attempts at delivery, pathogenic germs of potential virulence found, constitutional evidence: It must be remembered that abrasions of the cervix and vagina during extraction of the mutilated fœtus after craniotomy are almost inevitable, and if virulent germs were present in the amniotic cavity, the maternal tissues would become infected and septicæmia ensue. Where there are constitutional evidences of sepsis and virulent germs are found, some form of Cæsarean hysterectomy is indicated. 5. Cases where gonococci are found microscopically or where gonorrhœa is known to exist. In conclusion, the relative advantages of the two varieties of sub-total hysterectomy in virulent infection is discussed. The author finally remarks that obstetricians must endeavor to perfect their surgical technique and stimulate the bacteriologists to render their diagnosis of the variety and significance of the germs present more reliable.

Disease Carriers.—Davies, in The British Medical Journal, mentions the infrequency of typhoid carriers, but the importance in their case of prolonged supervision and detention in hospitals, also of the early recognition of their condition. In England there is at present no governmental regulation regarding these carriers. As to diphtheria carriers, it is not possible now to isolate from the public all the well persons in infected families, schools, and institutions. In severe epidemics of malignant diphtheria some method ought to be devised to protect the public from carriers.—Edward Wilberforce Goodall, of Hove, in following with a paper on the same subject, dwelt upon the methods of counteracting the influence of the carrier. It was scarlet fever that was most to be dreaded. Each

patient should be thoroughly washed before leaving the hospital and assume clothing furnished by his friends; they should be detained, however, if there was any discharge from the nose. Diphtheria patients should not be freed till a bacteriological examination showed no bacilli. It is the typhoid carrier who is particularly exercising the mind of the sanitary administrator at present. Seeing that the infection of typhoid fever is nearly always acquired by means of food, it would appear that special attention should be directed to preventing known carriers from engaging in occupations connected with the conveyance and preparation of food. Amongst the better-classes this will not be difficult to accomplish; but amongst the poor, until their surroundings are vastly improved, it will. In a few places advice, both oral and printed, has been given freely to carriers or suspected carriers. Various methods of treatment by drugs and by vaccines have been tried in order to free permanently the carrier from his bacilli. But none of them appear so far to have been efficacious. From what we know of the chronicity of carriers it follows that, in order to be certain that a carrier had become permanently free, he must be under observation for several years. A few simple instructions given to those carriers who are known to be engaged in the preparation of food should suffice. Those engaged in such occupations as milking or conveying milk should be required to seek other occupations. The treatment of carriers amongst the poor would be much facilitated by the establishment of kitchens for the cooking of the food of large numbers of families. It would be easy to provide for such institutions a staff free from carriers; and the influence of the individual carrier in the community would be confined to direct infection, the danger of which attention to ordinary rules of cleanliness would reduce to a minimum.

Atropine as a Preventive of Complication from Ether.—Hensley (Dublin Journal of Medical Science) says that atropine administered internally diminishes the secretion of bronchial and tracheal mucus, and also diminishes spasm of the muscular coat of the bronchial tubes by its action in paralyzing the peripheral nerve fibers of the vagus. There are other actions when moderate doses are administered—viz., increase in blood pressure and increase in frequency and depth of respiration. The most important results are the diminution in the secretion of mucus and the lessening of bronchial spasm. The method of administration he has adopted is to give 0.01 grain atropine sulphate hypodermically about fif-

teen minutes before commencing the induction of anaesthesia, and repeating the injection if the patient shows any signs of mucus, however slight. The Dr. has never seen any trouble or complication arising out of the administration of atropine, and the results, as far as mucus secretion is concerned, have been satisfactory. The atropine in all cases diminishes, and in most cases inhibits, the secretion of mucus, and the anaesthetist is spared the necessity of frequently swabbing out the throat, to the patient's, the surgeon's, and his own comfort. The recovery of the patient is much more rapid, and postanesthetic sickness is uncommon, a result which he thinks may be attributed to the absence of mucus, the presence of which in ordinary cases is responsible for a good deal of vomiting, the secretion having been previously swallowed.

Treatment of Malignant Growths by Radium. Moullin, in The London Medical Lancet, says that so far as our present knowledge is concerned with the small quantities that we have at our command, radium can only be relied upon, and that to a limited extent, in cases of malignant disease in which growth is slow and the degree of malignity relatively slight. On the other hand, it is of the greatest value in what may be called the pre-malignant stage—that is to say, in removing growths which not infrequently become malignant as age advances, without an operation and what is very important, not merely for cosmetic but for clinical reasons, without leaving much of a scar; and there is good reason to hope that if the small quantities we possess now are capable of dealing with growths of relatively mild malignancy, larger amounts, when we can get them, will prove equally successful in circumstances of greater difficulty.

Surgical Treatment of Exophthalmic Goiter. Tinker (Buf. Med. Jour.) urges that special attention be devoted to examination of the heart in determining the extent of the operation. In many cases it will be found greatly dilated and may be so weakened as to make immediate intervention inadvisable. Even in young persons there is often thickening of the vessels. A careful blood examination should also be made. In operating upon desperate cases the operation may be divided into a number of stages, such as ligation of one artery on the least affected side of the gland, then ligation of the artery on the side of greatest enlargement, further treatment depending upon the amount of improvement resulting. Sometimes the gland was removed at once; sometimes it was simply exposed and the wound packed with gauze, followed later

by thyroidectomy, and still later by suture of the wound. In all cases the importance of prolonged rest was enjoined. In the less desperate cases it would be safe to predict 99 per cent. of cures. He has now performed considerably over 100 consecutive operations without loss of life, taking the desperate with the relatively simple cases.

Extradural Injections by Sacral Puncture in Genito-urinary Neuroses.—De-laup (New Orleans Medical and Surgical Journal) has tried this procedure with success in seven cases. He considers the following deductions warranted: 1. That extradural injections with normal salt solution, or any mild analgesic solution, offer the most promising results in abnormalities of urination due to faulty vesical innervation. 2. That incontinence of urine, enuresis, excessive frequency of urination (unless due to other pathologic conditions), can at least be ameliorated, if not cured, by extradural injections. 3. That the immediate effects of extradural injections are very rarely even disagreeable, and, when cautiously performed, the injections are in no wise dangerous to the patient, and no more painful than any other hypodermatic injection with a mild solution.

Encephalitis after Whooping Cough.—Von Domarus (Deutsches Arch. f. klin. Med.) rests the case of a healthy girl of six with no previous history of fits or nervous disorders, had a severe attack of whooping cough. Eight weeks later the cough was lessening and the patient better, when fever and nocturnal delirium came on, and next day flaccid paralysis of the right arm and leg was noted, with aphasia; convulsions and stiff neck were not observed, nor was hearing impaired. The child's mental state seemed normal; the mother noted paresis of the right side of the face a few days later. The flaccid limbs shortly became spastic, some three weeks later, when the first attempts at speech were made. Seven weeks after this the child was brought to hospital, and shewed the typical picture of a right-sided cerebral hemiplegia; during the next four months slow progress towards recovery was made. The eyes and their movements were normal, and no sign of nasal or aural disease was made out. Athetosis was not observed. The author believes the case to have been one of encephalitis due to the bacillus of whooping cough, which is morphologically and culturally very similar to the B. influenzae.

Trichocephalus Enteritis.—Cade and Garin (Arch. des mal. de l'appareil digestif et de la nutrition) say that the trichocephalus worm is one of the most common of

intestinal worms, and that it may give rise to various reflex nervous manifestations to more or less marked anemia, and to toxic symptoms. One of the commonest symptoms produced by this worm is some form of digestive disturbance, and the authors believe that in all cases it causes enteritis, which may be of a dysenteric character, and associated sometimes with short rises of temperature. It is probable that these symptoms are produced as a result of infection of the body by the microbes normally inhabiting the intestine which are inoculated by the worm; possibly, also, some of the intestinal symptoms may result from nervous disturbance, but this factor probably plays but a small part. Clinically, trichocephalus enteritis shows itself in various forms. Sometimes a severe and rebellious diarrhea occurs, accompanied or not by colicky pains and tenesmus, but usually without much pain. The stools are liquid, yellow, and sometimes mixed with mucus. Visible blood is uncommon but occult blood is almost always present. This diarrheal form resembles very much that due to tuberculous disease of the intestine. If there is much mucus in the stools and there are colicky pains and tenesmus, dysentery is simulated. In other cases constipation alternating with attacks of diarrhea is liable to occur, and the stools then often contain mucus and false membranes; if to these symptoms are added attacks of abdominal pain, muco-membranous enterocolitis, or intestinal dyspepsia is likely to be diagnosed. In these cases there may be pain or pressure over the right iliac fossa, and appendicitis or typhilitis is suspected. Sometimes the symptoms take the form of heaviness after eating, less commonly of pain and rarely of vomiting. Loss of appetite is common. As these patients often exhibit neurotic manifestations their symptoms may be put down to nervous dyspepsia. Headache, dizziness, vertigo, loss of strength, and asthenia, out of proportion to the general condition of the patient, are also common. A rise of temperature in trichocephalus infection is common, either a moderate rise lasting for some days, or even sudden rises to a greater height. The diagnosis can only be arrived at by, if necessary, repeated examination of the stools for the ova of the worm. Eosinophilia, though helpful, is not by any means a constant sign in trichocephalus infection. With regard to the treatment of this condition, the author adopts the following method: Thymol in one gram doses is given in the form of a cachet three or four times a day for three or four days, and this is followed by a saline purge. No wine, alcohol, or oil should be taken during the treatment. This treatment

should be resumed, if necessary, after a few days. Although it is not always successful in removing the worms, even after several seances, it is absolutely devoid of danger, and in every case causes decided amelioration of the symptoms. The author considers that in persons suffering from vague intestinal symptoms of indefinite causation, a search should be made for ova of worms in the stools, as if these be found a definite and rational line of treatment can be adopted.

Ophthalmia Neonatorum.—McReynolds (Texas State Journal of Medicine) says that the question of causation is very apt, indeed, to occasion much speculation on the part of certain members of the family, and the preservation of the eyes may be determined sometimes by a judicious and tactful presentation of the facts to the father of the child. It will not be necessary before instituting appropriate treatment to ascertain by microscopical examination the special form of micro-organisms prevalent in the pus. But this much can safely be stated to the father, that the condition of the child's eyes depends upon the existence of a contagious discharge on the part of the mother, and that this infection is sometimes innocently acquired and sometimes communicated by the father to the mother. And thus we are relieved of the unpleasant task of making a dogmatic accusation; at the same time we can sufficiently impress the father with the seriousness of the case and his possible responsibility for the same with the result of inducing him to spare no expense for an adequate and efficient nursing, which we know will be absolutely essential to the successful management of the affection.

The most important duty of the medical profession relates to the prophylaxis, and this is chiefly in the hands of the general practitioner in the capacity of obstetrician. Crede's prophylactic method acts beneficially in two ways: it not only tends to destroy directly the micro-organisms themselves, but by the coagulation of albumin it mechanically imprisons the germs not actually destroyed and this facilitates their prompt and complete removal.

A great deal of discussion has arisen among ophthalmologists with regard to the use of the cold and heat in ophthalmia neonatorum. But the reasoning is in favor of hot applications after the initial period has passed, especially when there has developed a deep-seated involvement of the cornea and iris. The factor which is by far the most important relates to the preservation of the cornea intact. And heat rather than cold favors an active circula-

tion with the resulting increase in the process of nutrition.

The Role of Syphilis in the Etiology of the Spastic Palsies of Infancy and Childhood.—Box (British Medical Journal) presents a paper on "The Syphilitic Factor in the Hemiplegias and Diplegias of Infancy and Childhood." He believes that the general consensus of opinion that syphilis is not a common factor in the spastic palsies of childhood is based on very good grounds, but thinks that it may more often be a factor than is generally thought. Mott's experience in the London County Asylums is quoted. Mott believes that rare as juvenile general paresis is, the specific infantile hemiplegias and diplegias were rarer still. It is important to mention this opinion because, owing to the immense number of cases under this authority's observation, the belief received wide credence. It is sufficient to remark here that such a statement by an observer of so large a clinical material can mean but one thing, and that is that Mott mistook many of his cases of active cerebral specific disease for cases of general paresis. It is sometimes, even in the adult, extremely difficult to differentiate between the active and the parasyphilitic cerebral affection, and in childhood the difficulty is at least as great. We can only infer that Mott did not successfully differentiate his cases, for, while general paresis in childhood is relatively rare, cerebral syphilis is comparative common in that period of life, and palsies intercurrent in its course are not at all rare. These palsies when they involve the limbs usually take the form of a hemiplegia, occasionally a monoplegia, almost never a diplegia. The hemiplegia is sometimes alternating, that is it may appear in the form of a paresis of one-half of the body, gradually subsiding and appearing in the other half of the body. One reason why these specific palsies of the limbs in children are not more often noted is because they often take the form of motor weakness, without actual paralysis. In such cases the increase of the reflexes should give rise to suspicion of the real presence of a hemiparesis.

The Dr. says that one reason for the apparent rarity of reported cases lies in the fact that so many syphilitic infants perish before, or soon after birth from convulsions, meningitis or by hydrocephalus. There is no question that such is the case, and in many instances of syphilitic children, I have obtained histories in which several other children were said to have died of such affections.

The writer says that reports of cases examined post mortem by several English

observers give reason to conclude that the pathological changes are similar to those in the adult.

This is true, but of the three forms of specific cerebral involvement, meningitis, arteries, and discrete gummata, meningitis is by far the most common, while discrete gummata of the brain are so unusual in childhood as to be a pathological curiosity. While the typical implication of the basal arteries, as seen in the adult is decidedly less common in the child, the fine cortical branches are always affected. This is usually secondary, or perhaps it might be more correct to say coincident with a diffuse gummatus infiltration of the meninges. It is due in larger degree to this extensive involvement of these fine vessels of the pia that the impairment of mentality is so marked a feature of cerebral specific disease in the child. In a considerable percentage of these cases, however, at some time or other during the course of the disease, symptoms of localized motor paresis will be found if the cases are kept under careful observation. This may be transient and may not be evident later in the disease, or it may be permanent and persist to the end, in the form of a monoplegia or hemiplegia, and occasionally the spastic condition in the limbs involved may remain after all of the other symptoms have yielded to treatment, showing a destructive lesion of the cerebral motor area, due to thrombosis, with secondary softening, or the destructive results of hemorrhage. It must be said emphatically that spastic paralysis in the course of juvenile cerebral syphilis is not rare, but is, in fact, common.

He in considering the question "Can Syphilis Produce Diffuse Cerebral Sclerosis?" believes that the inference that sclerosis is always due to syphilis is quite unwarranted. It most certainly is. He believes, however, that it may produce it. This subject may be, I think, briefly dismissed. As a matter of fact, cerebral sclerosis is never primary. It is always secondary to a preceding softening or atrophy of the parenchyma, the cells and their neuroses. It may therefore follow any condition producing softening or atrophy, and syphilis is simply one of these conditions.

Nephritis in the Form of Pernicious Anaemia.—Bizarri (Riv. crit. di Clin. med.) mentions nine instances from the literature, and details two cases of pernicious anaemia combined with nephritis. One, a man of 20, suffered from anaemia and debility for fifteen months before he died; a month before the end his blood count showed Hb 35 per cent., white cells 2,800, red cells 841,000, with normoblasts. Post mortem there

was fatty degeneration of the liver, the spleen was normal, the kidneys large with subacute parenchymatous nephritis (the urine had been free from albumin), the bone marrow redder than normal. The second patient, a married woman of 24, had begun to lose color and strength three weeks before the birth of her fourth and last child; the labor took place normally without any great loss of blood. She entered hospital soon afterwards; the urine contained a little albumin; the blood count showed Hb 30 per cent., white cells 10,700, red cells 690,000 with poikilocytes and normoblasts. Death followed soon after; the liver was found post mortem to show fatty degeneration, the spleen was a little enlarged, the bone marrow was red; the kidneys were large and anæmic, showing chronic parenchymatous inflammation; and the uterus contained residues of the placenta, while the uterine mucosa was slightly inflamed. In neither case is any mention made of tests for free iron in the liver or spleen. The author does not express any definite opinion as to the relations existing between the nephritis and the anaemia in these cases.

Carcinoma of the Uterus, with Metastases in the Lungs and Pleural Cavities.

—Offergeld (Archiv. f. Gynækologie) says that the lungs are a favorite seat for metastases in the case of cancer of the uterus, while the pleural cavities are but rarely involved. As to frequency of metastases in the pleura, Sibley, in the Middlesex Hospital, found the condition in two out of forty-four cases of cancer of the uterus. Dittrich, in Prague, found two cases in sixty cases of cancer of the uterus. Boquerel, in the Salpetriere, in Paris reports one in fifty-one cases. Bzau and Dybowski found in Virchow's material of 202 cases, three cases with secondary involvement of the pleura. Albers-Schönberg, in Hamburg, found metastases of the pleura in eleven out of 564 cases.

Frequency of Metastases in the Lungs. Wagner found them in six per cent. of his cases. Sauger v. Herff in seven per cent. of his cases. From his examination of the literature the author found 118 individual cases, in which secondary involvement existed in the lungs, in the presence of cancer of the uterus. These metastases may take place early, when the primary uterine growth is still very small, even where the neighboring lymphatics are still uninvolved. The usual location for the secondary pulmonary growths is in the central portion of the lower lobes. The lesion is most frequently bilateral. The metastases taking

place both through the circulatory and the lymphatic systems.

Summary: (1) Cancer of the pleura is very rare, in primary cancer of the uterus. (2) Cancer of the pleura is found only in advanced cases of cancer of the uterus, and especially in cancer of the cervix. (3) Cancer of the pleura secondary to cancer of the uterus, arises only through the lymphatics and then only after passing through the pulmonary and bronchial lymph glands. (4) The clinical symptoms are indefinite. (5) Metastases in the lungs, in cancer of the uterus, are relatively frequent (5.7 per cent.). (6) Such metastases are found relatively early. (7) These pulmonary metastases are usually bilateral and are found especially in the central zones of the lower lobes. (8) They arise chiefly through the circulatory system. (9) Carcinomatous lymphangitis is very infrequent in the lungs, in the case of primary carcinoma of the uterus.

The Administration of Anaesthetics.—

Darling and Williamson, in *The Dublin Medical Journal*, state that since August, 1909, they have used hyoscine and morphine before operation in over two hundred cases as a preliminary to general anaesthesia; they have given the dose only to adults, the ordinary dose being hyoscine 1-100 grain, morphine 1-6 grain, atropine 1-180 grain, hypodermically, one to three hours before operation. In young women the dose of hyoscine has sometimes been as low as 1-200 grain. The majority of patients have had the previous night ten grains each of trional and sulphonal, ensuring them quiet sleep. In fifteen minutes from receiving the hypodermic injection the patient is completely indifferent to his surroundings, and then the final preparations are made, causing him no mental distress. He walks into the operation room (when his condition permits this) without apprehension, is somewhat dazed, but replies intelligently to questions usually takes the anaesthetic without terror or struggling, and when he wakes up some hours later remembers nothing that has happened, and is surprised that the operation is over. Many patients have no recollection of anything since receiving the hypnotic the night before. Less of the anaesthetic is required, the quieting effect on alcoholics is noteworthy, and postoperative vomiting is much less frequent. In no case have they had reason to think the dose has produced ill effects; in cardiac cases they believe it has added an element of safety. The writers have not given it where there has been albuminuria. About half the operations were intraperitoneal, many being very severe.

Rupture and Perforation of Pyosalpinx.—Lejars (*Semaine Medicale*.) reviews what Bonney and others have published on the subject, emphasizing the necessity for bearing in mind the possibility of rupture of a pyosalpinx when confronted with menacing peritonitis of unknown origin. The history of the case generally shows some acute flare-up of an infectious process just before, and a slight contusion afterward inducing the rupture or perforation. The pyosalpinx may also rupture during delivery or measures to induce abortion. Cherassu recently reported a case of this kind: A woman introduced a long bone canula supposedly into the uterus and during the night abdominal symptoms developed with fever; pulse was weak and 130, and the abdomen was found flooded with pus traced to one tube containing several small interstitial abscesses. The tube was removed, as the condition of the patient did not permit hysterectomy. She died in less than five days. Galliard has reported a case in which a woman convalescing from typhoid suddenly developed severe colic, vomiting and severe tympanitis, high fever and pulse of 160. When the abdomen was opened no perforation could be found in the intestines but the right tube was swollen and perforated and it was excised; the patient rapidly recovered. Typhoid bacilli were cultivated from the pus in the excised tube. The author found streptococci exclusively in one case of diffuse peritonitis from rupture of a left pyosalpinx, and death speedily followed. Latzko and Cotte have each reported a case of rupture abscess in an ovary. The author has also encountered two cases in which the tube had perforated and had become gangrenous, the condition resembling exactly those in a gangrenous appendix. The peritonitis following perforation of a pus tube is, as a rule, unusually grave and rapidly progressive: the pains are localized in the pelvis, and are severe from the first; the findings with vaginal palpation may give the clue to the suppurating focus in the uterine adnexa. The condition is frequently mistaken for appendicitis or a ruptured tubal pregnancy. Differentiation is important on account of the necessity for prompt operation without temporizing. Removal of the diseased tube and possibly the uterus with the adnexa is the safest course.

Examinations on Tuberculous Infections in Childhood.—Rothe (Part 2, Publications of the Robert Koch Foundation) publishes a continuation and amplification of Gaffky's previous work. The author examined the bronchial and mesenteric

nodes of 100 children under five years of age, the material being taken from successive autopsies in cases dying of various causes. Guinea-pigs were inoculated with this material, and in turn cultures of the tubercle bacilli were isolated and differentiated.

Of the 100 cases, 21% showed tuberculosis, which is about what we would expect. This is, however, in contrast to the findings of Gaffky on 300 cases under 14 years of age. In these older children only 19% of tuberculosis of these nodes was found. It is difficult to harmonize these figures and we may note that the figures of Gaffky are surprisingly low for children of this age.

All in all, in the 400 cases the mesenteric nodes were involved in 14 cases, the bronchial nodes in 22 cases, and both groups in 42 instances. The number of infections from the human type of bacillus were 75 and that from bovine infection three in number. Of these three he was unable to isolate successfully two. The difficulty of isolation is strong evidence of the fact that he was dealing with the bovine bacillus.

He says if we exclude these two cases and consider that we have only one bovine case, the percentage of bovine tuberculosis is 1.1-3. This the author does, following the school of Koch who denied so strongly the importance of bovine tuberculosis. However, if we include these two cases the amount of bovine tuberculosis comes to 4¾% which is about what would be expected judging from previous statistics of cultures made from this material.

All in all, the work of both the author and Moeller shows us that although pulmonary tuberculosis is caused solely by the human bacilli, glandular tuberculosis is often caused by the bovine type of bacillus. —Dublin Medical Journal.

Relation of the Thyroid to the Female Generative Organs.

—Goodall and Conn (Canadian Med. Ass. Jour.) mention a case showing that pelvic disease was the cause of thyroid enlargement. Shortly after the onset of pelvic pain and discomfort, the patient noticed a gradual enlargement of her thyroid, dyspnea, tachycardia and other symptoms of thyroid disease. After a while an operation was performed and when the abdomen was opened the pelvic disease proved to be a chronic tuberculosis, involving tubes, ovaries and uterus extensively. All these organs were removed. About twelve days after the operation, the authors noticed that the thyroid was decreasing in size. This continued and six months after the operation the woman was entirely well. The thyroid had enlarged synchronously with the onset and progress of a grave dis-

ease of the generative organs and with the removal of the pelvic disease the goitre visibly diminished to dimensions below the normal. The authors believe that there can be no hesitation; then, in claiming that the pelvic disease was the cause and the thyroid enlargement the effect. This led them to investigate the subject further, clinically and experimentally, and the following conclusions represent the results of this work:

- (1) The relationship between the female generative organs and the thyroid is very intimate.
- (2) The generative organs which stand in such close relation with the thyroid are the ovaries.
- (3) That the uterus is devoid of any influence on thyroid activity, except in that its function may affect the ovarian function, and through this the thyroid.
- (4) Thyroid activity is in a measure under the governance of ovarian activity.
- (5) Ovarian hyperactivity is a frequent cause of the development of exophthalmic goitre.
- (6) Diminished or absent ovarian activity usually coincides with myxedema.
- (7) Puberty, menstruation, pregnancy, lactation and the menopause exercise a profound influence on thyroid secretion.
- (8) Thyroid and ovarian secretion do not supplement each other; they neutralize each other.
- (9) The ovary has two secreting structures—the corpora lutea and the interstitial cells.
- (10) It is the secretions from the latter which seem to bring the ovary and the thyroid into such close relationship.

Feeding in Gastric Ulcer.—Singer

(Wien. Med. Klin.) has adopted, with some modifications, Lenhartz's method of treatment of gastric ulcer, the main principles of which, as compared with those of the older method, being to obtain a larger value in calories with a smaller volume. In spite of the favorable statistics with regard to hemorrhages on Lenhartz's treatment, the author finds that, after a severe hemorrhage, patients can often not bear an immediate beginning of feeding by the mouth. Thus, in one of his cases in which there had been a hemorrhage eight days before admission and another on the day of admission there was a recurrence of bleeding when food was given by the mouth three days after admission, and, again, on another tried four days later; only after six days of rectal feeding alone was combined rectal feeding by the mouth able to be resumed without giving rise to hemorrhage. The increase of weight in cases of gastric ulcer treated on Lenhartz's system is most striking, as seen in diagrams showing the steep rise in the weight curve. Eggs, milk, cream and butter are a good foundation for

the diet and are extraordinarily beneficial for the hyperacidity so often present; when there is a good tolerance for fats the author lays special stress on the giving of cream and much butter. Carbohydrates are not absolutely excluded. Nearly always the author adds "hygiama" or bioson to the milk and puree of potatoes, and foods, such as Nestle's, Mellin's, etc., may be given. When there is much vomiting ice prepared with hygiama and milk has repeatedly been found to give good results. The loss of weight which follows a few days' absolute rest from stomach feeding is not to be considered of importance as it can soon be made up. Indeed, on Lenhart's system, by the ninth day 2,000 calories of food value are being administered as compared with 1,000 calories on the fourth week on the older method. Rest in bed is one of the most essential conditions of a good cure of ulcer, and Singer finds that his private patients, after a cure has been effected, are much more willing to avoid indiscretions of diet than to permanently cut themselves off from physical over exertion. Yet absolute proof that an ulcer has healed is not present after the most apparently successful cure. With respect to treatment by drugs the author has found gelatina alba in five to ten per cent. solution and adrenalin useful in combating hemorrhage. Anæsthesin acts very favorably on the symptoms, and hypersecretion and hyperacidity are often influenced by the use of the one to two per cent. solution of anæsthesin in mistura amygdalina. When this fails atropine preparations, and especially eumydrin, given subcutaneously, may be successful. Both Lenhart and Leube lay stress on the early administration of iron in the form of Bland's pills; the author has often, however, found a great intolerance of Bland's pills to be present, and is chary of ordering iron in the early stages where recurrence of hemorrhage is threatened. In the later stages he orders iron in an easily assimilable form, especially hemoglobin preparations. In early cases he gives intramuscular injections of "metharsenate de fer^{re}". With regard to operations, the author agrees with Payr that entero-anastomosis is indicated in ulcers at or near the pylorus and in stenosis due to scar tissue, but that resection is suitable for extra-pyloric ulcers.

Tuberculous Meningitis in Newly Born Infants.—Lafarcinade (Medical Press and Circular) says that out of forty-two cases of this malady collected by him and not previously published over twenty-two occurred in infants under two years of age. The hemiplegic or eclamptic form is found in suckling infants, and gradually results

in a state of coma. The somnolent form, however, is characterized by the four following symptoms: Progressive somnolence, ocular catalepsy, progressive emaciation, instability and irregularity of the pulse. Gradually the tendency to somnolence becomes more marked, the child is nearly always asleep, and ultimately the sleepiness culminates in deep coma. Ocular catalepsy is due to the absence of palpebral winking, to amblyopia, and the disappearance of the conjunctival reflex. The affected child sleeps with his eyes wide open but without seeing. Progressive emaciation dates from the prodromal period. As to the instability of the pulse, this consists in the fact that if the pulse of a meningitic subject is examined several times a day considerable difference will be noted. In addition to these four principal symptoms Lafarcinade says that vomiting or diarrhea is often present. However, these symptoms, instead of facilitating the diagnosis of the disease, not infrequently lead the physician astray and he is liable to diagnose gastro enteritis. When the disease is fully developed it proceeds on its unvarying course, finally merging into coma and death. In all the cases observed by the writer the termination was fatal. From the nature of the disease the treatment is only symptomatic and necessarily ineffectual.

Injury of the Spinal Cord Due to Rupture of an Intervertebral Disc.—Middleton and Teacher, in The Glasgow Medical Journal, report a case of injury of the spinal cord due to rupture of an intervertebral disc: A man was lifting a heavy plate from the floor to a bench, when he felt a "crack" in the small of his back. He suffered intense pain, and was unable to straighten himself. Paraplegia soon developed, and the patient died sixteen days later, principally from the effects of bed-sores and septic cystitis. The cause of the paraplegia was hemorrhage and softening in the lumbar enlargement of the spinal cord, and the cause of this was found in a mass of the pulp of an intervertebral disc which had been displaced into the vertebral canal. The body which caused the injury, and its nature and source, were clear. The position which it occupied was that to which it would be directed by the powerful ligament which is on the posterior surface of the vertebral bodies in the middle line. Unfortunately the portion of intervertebral disc was not noticed until the day after the examination, and it was impossible to obtain another examination of the body; but injury or displacement of the vertebrae of the common types had been searched for, and could be excluded. From the position

of the injury to the cord it is probable that the disc which gave way was that between the twelfth dorsal and the first lumbar vertebrae. With regard to the mechanism of the injury, it can be inferred from the history of the case that the man, at the moment at which he felt the "crack" in his back, must have had his back more or less bent forward, with the lumbar and abdominal muscles in full action. This would cause powerful compression of the intervertebral discs, with the anterior margins of the vertebrae approximated to one another, and, therefore, in a favorable position for displacement of the pulp of the intervertebral disc backward, if that is possible.

Miscellaneous.

The Medical College of Virginia is an old established institution, owned, controlled and fostered by the State. The advantage the State Medical School has over a private or proprietary school is best expressed by the following quotation from the presidential address of Dr. Frank Billings, before the American Medical Association (Journal of the American Medical Association, Vol. 46, p. 1275): "Medical education must advance to its proper level if it complies to the present status of the medical sciences and the demands which continued evolution in medicine promises. What does this imply? It means that the private—the proprietary—medical school which is conducted for commercial reasons must go."

The history of this institution is one of which its alumni may justly feel proud. It has educated a large proportion of the physicians of this and neighboring States. During the Civil War its doors were continually open, the College conducting two courses each year, educating medical students for service in the Confederate Army. It was the only school in the South that did this. It was the first school in the State to adopt a four-year graded course, and has been foremost in many other improvements.

The standing of the alumni of the Medical College of Virginia is shown by their marks before the various State examining boards, their success as practitioners, and their positions on the teaching staffs of various medical colleges.

The Educational Number of the Journal of the American Medical Association, issued May 27, 1911, shows that all graduates of the Medical College of Virginia, without regard to their year of graduation, passed every State board examination they attempted. This report of the Journal of the

American Medical Association not only includes Virginia, but every State board before which our alumni appeared. Further statistics on the standing of our alumni before State boards will be cheerfully furnished on request.

The Medical College of Virginia has more practitioners of medicine in this State than any other medical school. Besides the number of prominent practitioners in Virginia who claim the Medical College of Virginia as their alma mater, there are many who have made reputations in other fields. Dr. Simon Baruch, of New York, the father of hydrotherapy in America, is a graduate of the Medical College of Virginia.

This College is also well represented in the medical departments of the Army and Navy. In the Navy there are four alumni who have reached the full grade of surgeon, and rank as lieutenant or lieutenant-commander. A number of its alumni rank high in the medical corps in the Army.

The Medical College of Virginia has had in its Faculty some of the most brilliant minds of the medical profession, among them E. Brown-Sequard, Socrates Maupin and Charles Bell Gibson, the great authorities of their day in Physiology, Chemistry and Surgery.

As to its present advantages, there are many which put the Medical College of Virginia in the front rank of the medical colleges of America. Chief among these is the fact that this College has the exclusive privilege of clinical teaching in the Memorial Hospital. The staff of this hospital for both private and clinical cases is selected from the Faculty of the Medical College of Virginia. It is one of the most modern and best equipped hospitals in America, and was constructed and furnished at a cost of \$200,000.

One of the greatest advantages to senior students is the Obstetrical Department of the Memorial Hospital. It is well known by teachers of obstetrics that more can be taught students from one maternity case in a hospital than from many cases on the outside, as on the outside the opportunities for watching the progress of labor and demonstrating various changes are inadequate.

The School is a member of the Association of American Medical Colleges, which embraces the best institutions in the United States, and to a large extent promulgates the laws governing medical education. It is also registered in full by the Board of Regents of New York State.

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Scarlet Red In Ulcers.

Ryerson is enthusiastic over the use of Scarlet Red in chronic and slowly healing ulcers. In those ulcers in which skin grafting seems to be necessary he has used Scarlet Red with the most gratifying results. He describes the technique of its application as follows:

The ulcer should be washed with a solution of boric acid or any other mild antiseptic and the edges dried. Solutions of bichloride of mercury or carbolic acid are to be avoided, as they kill the new young epithelial cells. The Scarlet Red ointment is then applied to the edges of the ulcer, either on perforated old linen or with a camel's hair brush. In large ulcers the surrounding skin is liable to become irritated from repeated applications, so it is well to cover this with some boracic or zinc ointment to within 1 cm. of the edge. In small ulcers the Scarlet Red ointment is applied to the whole base and edges. This dressing is left on for twenty-four hours, when the area is again washed and a boracic ointment (quarter strength) dressing applied. The Scarlet Red is used again at the end of another day, and so on alternately. It has been found that the continuous application of the Scarlet Red ointment is too irritating.—Canadian Practitioner.

Right-Sided Abdominal Pain in Women.

In discussing this subject the author points out that the cecum often complicates the diagnosis in cases where this type of pain is present. The cecum often lies in the true pelvis, especially in women who have borne children, and it is by no means uncommon to find the pelvis entirely occupied by a cecum distended with gas, such a condition of this organ rendering it often a source of vague pain. A case of this kind is referred to by the writer, in which an indefinite swelling, supposed to be an ovarian cyst, could be felt in the right iliac fossa. On percussion, however, it yielded a high resonant note. The patient being in acute pain, it was decided to incise the abdomen, when the swelling was found to be due to an enormous accumulation of gas in the cecum, the pressure being so great as to cause the peritoneal coat to split in two places. The cecum had partially twisted on its axis. The gas was evacuated through a puncture, the edges of the small opening being tacked to the margins of the incision as a safeguard, and an admirable and permanent recovery resulted.

An important form of pain in the right flank is associated with a painful anal fistula. The pain during defecation in the presence of the latter condition often causes

patients to avoid this act as much as possible, and occasionally the spasmodic action of the sphincter so interferes with the regular emptying of the bowel that the colon and cecum become abnormally distended. In these cases the more or less constant pain in the right flank has led the practitioner to attribute it to ovaritis, appendicitis, and in older women to cancer. In many cases the author has found chronic right-sided pain associated with a painful anal fistula to be cured by dilating the sphincter under an anesthetic, and then clearing out the bowels with a dose of castor oil.

Some of the most misleading cases are those in which young women have been treated for indigestion supposed to depend on a chronic ulcer of the stomach when the appendix has been the cause. When gastric symptoms are sufficiently severe to warrant an operation and the surgeon finds the stomach normal on inspection, it is his duty to examine the vermiform appendix and he will often find it abnormal. Its removal in such a case will more certainly give relief than the gastrojejunostomy formerly recommended.

In dealing with persistent right sided abdominal pain, where it is impossible after careful clinical examination to decide which organ is at fault, and the patient's condition is such as to justify operative interference, it has been the author's custom to make a fairly free incision in the line of the right linea semilunaris and systematically examine the organs on the right side of the abdomen. This incision allows of examining the pelvic organs, including the ureters, cecum, appendix, kidney, gall-bladder and ducts, pancreas, duodenum, pylorus, and liver. It also has the advantage of permitting the surgeon to deal with conditions requiring surgical treatment in almost any of the organs mentioned. It occasionally happened that nothing could be seen to account for the pain, and in a few cases some unexpected pathological conditions were found. Occasionally an operation revealed the presence of serious and painful disease in young women who had been treated as hysterical by their parents and physician.—Bland-Sutton, in *The London Practitioner*.

Thoracic Aneurysm.

Dr. Dmitrenko draws attention to an important sign of thoracic aneurysm already enunciated by Dr. Williamson—namely, a difference in the arterial blood pressure on the two sides of the body. According to Dr. Williamson, whenever the difference between the arterial blood-pressure of the two brachial arteries attains or exceeds 30 millimetres, there is strong presumption in

favor of the existence of an aneurysm. Depending chiefly on this sign, Dr. Dmitrenko was able to diagnose aneurysm of the thoracic aorta in a woman aged forty-nine, admitted into hospital for pains which she had experienced for two years in the back, between the shoulder-blades and in the chest. The blood pressure measured 125 millimetres of mercury in the left brachial artery, and 155 millimetres in the right. Radioscopic examination fully confirmed the diagnosis. In another case of a woman aged fifty-four, complaining of pains in the back, dyspnoea, dysphagia, and frequent vomiting immediately after food, estimation of the blood pressure showed 200 millimetres for the right brachial artery and 253 millimetres for the left. Radioscopic examination showed the presence of an enormous dilatation of the whole of the ascending part of the aorta, with aneurysm of the transverse and descending portions.—The Hospital, London.

Absent-Minded Doctors.

In a play entitled "Chou Blanc," recently played in Paris, one of the characters was a hooligan, who, in order to get out of a tight place, passed himself off as a doctor, and went to sleep on the breast of the patient whom he was pretending to auscultate. However improbable this may seem, the thing has actually occurred. About a year before his death Professor Potain was called to a man suffering from severe bronchitis. The physician asked to be left alone with his patient, and proceeded to auscultate his chest, asking him to count aloud. Waiting behind the door for the deliverance of the oracle, the anxious wife was surprised at the length of the consultation, and at last went in to see what was the matter. She found the doctor asleep on the breast of her husband, who was steadily counting, and was well on the way to 500. This reminds one of the doctor who had been dining and was called from a game of cribbage. He tried to count the patient's pulse, and got on well enough till he reached the critical number 15, when he proceeded: "15, 2; 15, 4; one for his nob," and so on. Another instance of a doctor going to sleep in examining a case, though still more unlikely than the story related of Potain, was told to us by one of the parties concerned. As all of them have long since passed away, there is no harm in repeating it. A well-known American physician had been recommended to a famous invalid lady with a warning as to his temper when suddenly aroused—as the French say, *il avait le reveil brutal*. He went to her for the first time when he was tired out. Having to make a vaginal examination, he found the bed too

tempting as a resting place for his head and went to sleep in that somewhat abnormal position. The unfortunate lady, who would never allow even her maid to be present on such occasions, remembering the warning she had received, was afraid to move or call for help. How long the doctor's slumbers lasted we do not remember, but we have no doubt that the lady accurately described the situation when she said it was "very awkward." A story is told of a celebrated physician called in to examine Joseph II. of Austria. The doctor was either absent-minded or overawed by being brought into such close contact with an Emperor, even in bed. Putting his hand under the bedclothes to feel the patient's pulse, he laid hold, not of the wrist, but of another part of the Imperial person which happened to offer itself to his touch. His Majesty called his attention to the fact in the gracious words: *Erras, nmice. Hoc est nostrum Imperiale membrum!* What the physician's feelings were is not recorded. One must, however, admire the tact with which the Emperor dealt with a delicate situation.—B. M. J.

Male Fern for the Hookworm.

CHARLOTTE MEDICAL JOURNAL:

The hookworm fever that pervades the minds of the medical profession under the stimulus of Rockefeller's gift—and the successful management of Dr. Stiles—has suggested only one remedy—thymol—which is often rejected by the stomach.

Is there no other remedy as effective and more palatable? Some are using the oil of Male Fern, and claim for it success in removing the worms. The dose of the oil is 5 gts. four times daily for four days, followed by saline.

The readers of the Journal will please give their experiences.

J. W. SANDERS, M. D.
Ocean, N. C.

Examination Questions—Board of Medical Examiners of Idaho

ANATOMY.

1. Give the origin, insertion, and nerve-supply of the biceps flexor cubiti.
2. Describe the abdominal aorta and name its branches.
3. Locate the great sciatic nerve; give its divisions. What muscles does it supply?
4. Describe the shoulder joint.
5. Describe the spermatic cord.

HISTOLOGY.

1. Distinguish and give one location of each of the different muscular tissues.
2. Describe an Haversian system.
3. Describe blood.

4. Describe a neuron.

5. Describe and differentiate an artery and a vein.

PHYSIOLOGY.

1. Mention four forms of muscle stimuli. What do you mean by the elasticity of muscle?

2. Give the location of the respiratory center. What keeps this center active?

3. What is the function of an efferent or centrifugal nerve? Mention the divisions into which efferent nerves may be divided.

4. What is meant by reflex action? Mention the superficial reflexes, the deep reflexes.

5. What are the functions of the pneumogastric nerve?

6. What veins unite to form the portal vein? Name in exact rotation the vessels through which the blood passes from the time it leaves the portal vein until it reaches the heart.

7. What changes occur in the blood in its passage through the liver?

8. Name the refracting media of the eye and the effect that each has on the rays of light.

9. Define myopia, hypermetropia, and astigmatism. State the cause of each condition.

10. Name five special centers existing in the medulla oblongata.

MATERIA MEDICA AND THERAPEUTICS.

1. What is a Pharmacopœia? From what sources do we obtain the materia medica?

2. What is meant by an official remedy? (a) Give the official names of sweet-flag, black cohosh, mercury, corn silk, dogwood, lady's slipper, bitter apple, poke-root, hoarhound, and boneset.

3. What is salol, cresol? What are their action and uses?

4. What are synergist, analgesic, depilatories, sialagogues? Name an example of each.

5. What is an alkaloid? Name one each obtained from *nux vomica*, opium, *ipecac*, *colchicum* and *ergot*.

6. Explain the difference, if any, between resins and gum resins.

7. Coca, cacao, coccus. Define each and give the uses or properties of each.

8. Colocynth. Give (a) synonym, (b) its principal constituent, (c) its medical properties, (d) the U. S. P. dose.

9. From what plant is opium obtained. (a) Explain the method of obtaining it. (b) Name and give the medicinal action of its most important active principle; (c) also a salt of the latter having a different action.

10. Name two forms of crystals and give an example of each.

CHEMISTRY AND TOXICOLOGY.

1. What is the toxic principle of digitalis, aconite, *nux vomica*?

2. In what poisoning is alcohol a good antidote?

3. Name a poison for which lime or lime water is an antidote.

4. What antidote would you give in case of poisoning by oxalic acid?

5. What is the effect of an over-dose of aconite?

6. Mention ten elements with their symbols.

7. How does the so-called aqua ammoniæ differ from the official spirits of ammonia? Give percentage strength of ammonia gas in each.

8. How do chemical compounds differ from mixtures? Give an example.

9. Mention the ingredients of a Seidlitz powder; what chemical reaction takes place while effervescing?

10. Give the chemical formula of morphine.

DIAGNOSIS.

1. *Tuberculosis*; tabulate the principal points of diagnosis.

2. State the principal diagnostic symptoms of scarlatina, diphtheria, variola, rubeola.

3. Give diagnosis of cirrhosis of the liver, atrophic and hypertrophic.

3. Differentiate chronic diffuse nephritis and chronic interstitial nephritis.

5. What is Cheyne Stokes respiration? Argyll Robertson's pupil? Widal's test? Wassermann's reaction? Koplik's spots?

6. Differentiate psoriasis and eczema squamosum.

7. Make a diagnosis of epidemic cerebrospinal meningitis.

8. Name and describe five pathogenic bacilli. State diagnostic value of each.

9. Differentiate diabetes insipidus from diabetes mellitus.

10. State briefly the principal diagnostic points of tetanus, Addison's disease, exophthalmic goiter, chorea.

PATHOLOGY.

1. Define pathology, pathognomonic, pathogenesis, pathophobia, hyperplasia.

2. In what neoplasms is there an increase of epithelial cells? glandular cells? connective tissues? muscle? nerve tissue?

3. What is nephroma? fibroma? lymphangioma? lipoma? chondroma?

4. Describe the condition in any one valvular heart lesion and the resulting changes.

5. Give changes in the blood in any one blood-disease.

6. Describe the lung changes in lobar pneumonia.

7. Mention the principal lesion in typhoid fever, rubeola, Graves' disease, Jacksonian epilepsy, cretinism.

8. Mention five diseases of unknown pathology.

9. Describe the pathology of hepatic cirrhosis.

10. Give the pathology of arteriosclerosis.

THEORY AND PRACTICE.

1. Give the urinary findings and treatment for chronic interstitial nephritis.

2. Give symptoms and treatment of a mitral insufficiency, briefly.

3. Differentiate renal and hepatic colic.

4. Etiology and symptomatology of locomotor ataxia.

5. Give the medical treatment for appendicitis.

6. Describe the general management of typhoid fever.

7. Give symptoms and treatment of cerebral apoplexy.

8. Give symptoms and treatment of exophthalmic goiter.

9. Give the etiology and symptomatology of lobar pneumonia.

10. Give the symptomatology and treatment of smallpox.

OBSTETRICS.

1. Describe the female pelvis, and name the organs contained therein.

2. (a) Describe the mechanical movements of the fœtus in vertex presentations; (b) in face presentations.

3. (a) Are face presentations safely delivered by the unaided efforts of nature; (b) under what conditions is early interference indicated?

4. What is the effect of premature rupture of the membranes?

5. Give differential diagnosis of extra-uterine pregnancy.

6. Name the various causes of prolonged labor and outline the general treatment.

7. Describe the uterine changes that take place in utero gestation.

8. What are the dangers of protracted labor to mother and child?

9. (a) Name causes of hydrocephalus; (b) what is the frequency of its occurrence?

10. What is subinvolution and how may you guard against the condition?

GYNECOLOGY.

1. Describe the clitoris.

2. Describe in full the mucous membrane of the body of the uterus.

3. Describe in full the arterial supply of the uterus and ovaries.

4. Describe in full the Fallopian tubes.

5. Describe in full the perineal body. What are its functions?

6. Give the etiology and symptoms of pudendal hematocele. How would you differentiate pudendal hematocele from hernia?

7. Mention the new growths occurring on the vulva. Give the etiology and appearance of condylomata.

8. What is the parovarium? Describe a parovarian cyst.

9. Give the etiology and symptoms of tubercular salpingitis. Upon what points would you base a diagnosis of tubercular salpingitis?

10. From what must you differentiate a large ovarian cyst? Make a differential diagnosis between a large ovarian cyst and a large fibroid tumor of uterus.

SURGERY.

1. Mention five instruments of accuracy used in diagnosing surgical disease.

2. Describe operating-room technique as to: surgeon, instruments, patient.

3. Write one page concerning surgery and the general practitioner.

4. Give treatment of strangulated hernia.

5. Differentiate pyuria of renal origin.

6. Discuss adenoids and adenoid operation.

7. Compound comminuted fracture of tibia with multiple fragments connected by lacerated periosteum, how treat?

8. Resection of rib, indications, technique, after-treatment.

9. Diagnosis and treatment of tuberculous joint, tuberculous and fistula.

10. Discuss diagnosis and treatment of talipes.

HYGIENE.

1. Discuss the construction of a sanitary dwelling house, where a near substrata of clay could not be avoided.

2. What are the principal differences between soil air and the atmosphere?

3. Give a common plumbing test for sewer gas leakage, and just how to apply it.

4. Upon what must the prophylaxis of typhoid fever be based, and by what possible and even probable means may the bacillus be conveyed?

5. Name six efficient disinfectants which combine cheapness and utility.

6. Discuss the practical daily hygienic management of the sick room and patient in the following diseases: Scarlet fever, diphtheria, typhoid fever, tuberculosis.

7. (a) What is meant by the term, active acquired immunity, passive acquired immunity; (b) what conditions may influence natural immunity and susceptibility?

8. (a) What is the effect of sufficient physical exercise upon the healthy body; (b) of excessive continued effort?

9. What are the requirements to be met by underclothing, and the relative values of silk, cotton, wool, and linen used for that purpose?

10. What are the objections to rice as a sole article of food?

Dr. Allen West, Secretary of the Hookworm Commission for Tennessee, has been in Raleigh, N. C., recently, looking into the operation and result of the free hookworm dispensaries that are being so successfully operated in this State under the direction of Dr. Jno. A. Ferrell. Dr. West says he expects to inaugurate a similar free dispensary campaign in his State at once. It is a notable fact that in North Carolina thirteen counties have already made the necessary appropriations for the operation of these dispensaries and they are to be provided by Dr. Ferrell just as rapidly as possible. Among the counties already having the advantages of this dispensary treatment are Robeson, Sampson, Columbus, Duplin and Cumberland.

We understand that the trustees of Rex Hospital, in Raleigh, N. C., are waging quite a little strife in that city by not allowing osteopathic treatment administered in that institution. It seems that this action on the part of the trustees was brought about, however, to comply with a demand made by the physicians connected with this well known hospital.

The Osteopaths are insisting that both medicine and osteopathy should be admitted, and charge that the trouble comes from professional jealousies on the part of the medical profession.

This is one of the many examples of this trouble, which has recently arisen.

Treatment of Leucorrhea.

The use of cleansing irrigations in the treatment of leucorrhea due to cervical catarrh is absolutely wrong, according to W. Liepmann. Irrigations will never cleanse the vagina properly but will carry the secretion into the upper portion of the vault and will also soften and injure the epithelium and in this way render it more suitable for the further development of germs. A more rational and effective treatment is the following: A speculum is introduced and the vagina carefully dried from above downward with cotton sponges on an applicator. The entire mucous membrane is then carefully dusted with about a teaspoonful of some suitable dusting powder. The applications are made on the first, second, fourth, sixth, eighth, tenth, fourteenth and eighteenth day. Irrigations are

strictly forbidden and the patients should not even bathe during the first eight days. About 90 per cent. will be cured in this way; where the cervical catarrh is more obstinate the cervical mucous membrane is cauterized on the eighth day or a curettage is performed. When the patients are discharged, they are instructed to insufflate the vagina with a suitable spray and to avoid all douches.—Therap. Monatschrift.

Acute Sulphonal Poisoning.

A case of attempted suicide by sulphonal, reported in the West London Medical Journal by Dr. H. S. Singleton, is noteworthy on account of the large dose swallowed and of a most important point in the treatment. A lady of thirty-eight swallowed 125 grains of sulphonal in 5-grain tablets; less than two hours later Dr. Singleton saw her, at the moment when a lay friend was about to administer hot brandy. This he was just in time to prevent, and the importance of his arrival, from the patient's standpoint, may be judged when it is remembered that the solubility of sulphonal is 1 in 450 in cold water, but 1 in 90 in alcohol. The treatment consisted of a pint of coffee, which the patient had to be well roused to swallow, followed by apomorphine. Energetic stimulation with strychnine and frequent drinks of hot coffee with warmth resulted in improvement after about six hours. Subsequently an erythematous rash appeared on the face, but there were no other serious after-effects. The recovery seems to have been extraordinarily rapid after such an enormous dose; but probably the tablets had not been more than partly digested and absorbed when measures were taken for removing the poison from the stomach.—The Hospital, London.

Treatment of Strychnine Poisoning with Chloroform.

Shakler (Philippine Journal of Science) concludes thus:

1. Dogs poisoned with doses of strychnine which are certainly fatal may recover from the effects of the strychnine if properly treated with chloroform together with the intravenous injection of liberal quantities of Ringer-Locke solution.

2. Better results are obtained if the chloroform is given by intratracheal insufflation and in uniform concentration, as low as consistent with the condition of the patient.

3. Dogs saved from strychnine death by means of chloroform are likely to die later of chloroform poisoning.

—4. Chloroform is far inferior to ether for the treatment of strychnine poisoning, and

probably for the treatment of convulsions in general.

5. Further experiment is necessary to determine the merits or demerits of atropine and of morphine in the treatment with chloroform of strychnine poisoning.

The Preparation of Chromic Catgut.

The method followed by Christal is as follows: Ordinary glass tubing two-fifths of an inch in diameter and of good thickness is cut into three-inch lengths with a file and the edges rounded off in the flame of a Bunsen burner. A piece of tubing this size easily holds a thread of catgut ten feet long as commonly sold. The gut is wound in a single layer on the tubes, not too tightly, taking care not to twist or unravel it, and secured at both ends by the "first stage" of a "surgeon's knot." A piece of fine silk or cotton thread is then run through the tube and knotted outside. This facilitates the subsequent handling of the catgut in transferring it from one solution to another. It is then placed in a 1 in 1000 solution of chromic acid for forty-eight hours, when it becomes a rich brown color. It is then transferred without washing to a jar containing ordinary sulphurous acid. The catgut lies in this for a further period of twenty-four hours, when it assumes a greenish hue. From the acid the gut is finally placed in methylated spirit made up to 1 per cent. with thymol (approximately $4\frac{1}{2}$ grains of thymol to the ounce of spirit.) For the whole process he uses three twelve ounce bottles, such as are commonly used for the dispensing of tabloids in bulk. The mouths are wide and stoppered with cork. The threads, each fastened to a tube of catgut, are left hanging out of the mouth of the bottle, which is then stoppered with its cork. Extensive bacteriological examination of catgut prepared in this way shows it to be free from organisms. The catgut so prepared is sterile, antiseptic, very strong, and pliable, and its tensile strength may be relied upon for at least three weeks. Another point in its favor is the cheapness and ease of preparation.—*The London Medical Lancet.*

The Method of Larat in the Treatment of Post-Diphtheritic Paralysis of the Palate.

Fumarola gives the histories of five cases treated with excellent results by the method of Larat for electrical treatment of post-diphtheritic paralysis of the palate. This form of paralysis is less frequent than before the use of antitoxin, yet it occurs in about one-half of the cases of paralysis. It is the result of the penetration of the toxin

along the peripheral nerves backward toward the medulla. There is a degeneration of the radicular and bulbar nuclei. It occurs only in cases of pharyngeal diphtheria, showing that it is directly related to the location of the membrane. It occurs one or two weeks after the disappearance of the membrane. In the method of Larat faradism is applied by means of an electrode placed in a basin of water in which the child immerses the hands, while the other electrode is placed at the nape of the neck. The application causes no pain or apprehension to the child, as is the case when the current is applied directly to the palate.—*Il Policlinico.*

Early Diagnosis of Measles.

E. Apert describes two signs that he considers pathognomonic of measles, and that appear so early in the disease, or so late in the incubation period, that isolation begun at this time will prevent its spread to others in the family. It is not early enough to make the diagnosis when the catarrhal symptoms have appeared. The disease is then infectious and all precautions fail to prevent its spread. The signs that are of value are Koplik's spots and conjunctivitis of the pterygeal area, that is of the conjunctiva between the lids. This appears when Koplik's spots are seen, that is three or four days before the skin eruption, and both signs have disappeared when Koplik's spots are seen—that is, three or four on the inner surface of the cheeks, rarely on the inner side of the lips, never on the gums or palate. At first they are like tiny, grayish granulations on the rosy mucous membrane, later becoming bluish.—*Le Bulletin Medical.*

Tincture of Iodine in the Treatment of Erysipelas.

The author reports a series of about 40 cases treated locally with iodine tincture. He considers it superior to other agents, but specifies certain points in the technique which are essential to success. The zone of sound skin surrounding the involved area is first painted with a wad of sterile cotton dipped in the tincture; next the diseased area is painted, using a fresh wad; finally, the area is covered over with cotton, to prevent spreading of the infection through the intermediary of the patient's fingers. The author found it best to apply the iodine lightly five or six times a day rather than more freely morning and evening. In this way induration of the superficial skin layers, which would interfere with the action of the iodine, is avoided.

The tincture used should be of 10 to 12

per cent. strength, and freshly prepared.

Twenty-one cases of facial erysipelas were thus treated with uniform success, 1 recovering after the first application, 16 in three days, 3 in four days, and 1 in five days. Of 6 cases of erysipelas of the neck, 2 were relieved in four days and 4 in six days. Eleven cases of erysipelas complicating accidental wounds yielded in less than five days. The wounds were left unsutured and treated likewise with iodine, with good results.—Ferrari, in *The Gazzetta degli Ospedali e delle Cliniche*.

The Copper Salts in the Treatment of Amebic Colitis.

Storck (New Orleans Medical and Surgical Journal) says, in regard to the use of copper sulphate, that its use in the form of hot instillations was first practiced by Moulden, who conceived the idea of employing it in amebic colitis after reading the work done by Moore and Kellerman, of the United States Department of Agriculture. After making some preliminary tests, Moulden treated more than two hundred cases successfully by the copper sulphate instillation method.

The method of applying the hot instillations of copper sulphate, as suggested by Moulden and as used by the writer, is as follows: The patient is placed upon an inclined plane that raises the buttocks twenty-five centimeters above the level of the shoulders, thus allowing for the complete distention of the entire colon, especially at the cecum, where the entamebas are usually present in large numbers. By taking advantage of the fact that as most of the weight of the solution is thus kept internal to the sigmoid flexure a maximum distention of the entire colon is produced, while a minimum amount of pressure is brought to bear upon the rectum and its sensitive nervous mechanism, the colon is thoroughly irrigated through a double-flow colon tube with sterile water until the return is perfectly clean. After draining off all the surplus water, the bowel is slowly filled with the hot copper solution by starting the reservoir on a level with the anus, and slowly elevating it as the gut accommodates itself to the pressure, thus distending it to its fullest capacity without contraction of the muscular walls. The temperature at which the instillations prove the most efficacious is from 106° to 110° F., the higher temperature being used as a rule in the worst cases. This temperature seldom causes annoyance, but on the contrary acts as a sedative to the mucous membrane, improves the penetrative power of the copper, and brings about reaction. The patient usually re-

tains the solution for twenty or thirty minutes. This procedure is repeated every twelve hours, and has been found to work well in practice, as it does not needlessly exhaust the patient.

Under the copper treatment, patients gain rapidly in weight, possibly due to some tonic action resulting from the absorption of the copper. Profuse perspiration frequently occurs, but no unfavorable results follow.

The strength of the solution used by the writer on the cases which he reports was from 1:10,000 to 1:6000.

Moulden claims to have proven experimentally that copper sulphate solutions of the above strength and temperature will destroy the entameba.

Lately the writer has used hot solutions of copper sulphate of the strength of 1:2000, first beginning with 1:10,000 and gradually increasing to the stronger solution. This was only done when the entameba and mucoid stools failed to disappear as rapidly as he thought they should. No ill effects were observed from the use of solutions of this strength.

The Origin and Treatment of Flatfoot.

Ewald (Klinisch-therapeutische Wochenschrift) says that one-third of all city school children examined by him have flatfoot, and one-third more have a more or less broken-down arch. The reasons that so few persons with flatfoot consult the physician are, in the first place, that not all flat feet are painful; and in the second place, on account of the cost of going to the doctor many turn aside to the dealers in orthopedic apparatus, and to the shoemaker. Furthermore, in many cases of flatfoot the physician makes a wrong diagnosis of rheumatism, gout, or even lues or tuberculosis. It must be kept in mind that only a slightly broken arch may give rise to very serious pain and disability.

A flat or broken arch may become painful through long standing, as in the case of apprentices and shopkeepers; from increase in body weight, as from obesity or pregnancy; from injuries, as trauma to the foot or leg; from resumption of use after long illness.

Studies in the skeleton, at autopsy, and by means of the Roentgen rays show that the pain results from displacements in the relative position of the various foot bones, especially at the calcaneo-astragaloid and the calcaneo-cuboid joints, as a result of which there is set up an inflammation and osteophytes are produced. These conditions may exist a long time without pain, but if a predisposing cause supervenes, pain is engendered.

As regards the treatment, the physician should endeavor to prevent the development of flatfoot by warning parents against allowing their children to start bearing weight on their feet or walking before the tissues become strong enough to stand the strain. Children should go barefooted as much as possible, and when wearing shoes, these should be fashioned to permit the feet to retain the normal shape. There should be put into the shoe some form of adequate support for the arch of the foot.

When the physician sends the patient with either a painful or a painless flatfoot to the dealer for a support for the instep, it is not sufficient that the support be placed in the shoe he is wearing, but the shoe with the support incorporated in it should be made to order. It is best to make a plaster cast of the foot in its proper position and have a support constructed from that. If proper methods are not followed the supports will soon bend or break and lose shape, and the patient will become possessed with the idea that nothing can be done to relieve him. In addition to giving proper support to the foot, it is requisite to institute massage, active and passive movements, methodical standing and walking, gymnastic movements of the inflamed joints, hot-air or hot-water baths.

Cancer of the Cervix Uteri.

Mayer (Munch. med. Wochensh.) has reported the result obtained in 211 of involvement of the cervix and 37 of involvement of the fundus. From the statistics given it appears that the operability of carcinoma of the cervix has gradually increased from 59.7 to 72 per cent. Formerly the average primary operative mortality of malignant disease of the uterus was 18.3 per cent. (20 per cent. for the cervix and 10.7 per cent. for the fundus.) Nowadays the percentage for cancer of the cervix has been reduced to 10.8 per cent. Recurrences took place in 118 cases (39.1 per cent.) of operated cancers of the cervix, but if to these be added 204 in which death resulted after five years the number of recurrences amounts to 50.8 per cent. The vast majority of these were observed during the first three years after operation. The slow development of some recurrences should be considered in cases of apparently late return of the disease. Occasionally there are no symptoms to indicate this until the case has become inoperable. The relative number of cures among 116 cases of cancer of the cervix treated by operation was 34, that is 29 per cent. permanent. From his observation Mayer concludes that the abdominal route is to be preferred, and that extirpation of the parametrium is important and

assures a longer period of freedom from the disease in some instances. Better results are to be expected from earlier resort to operation.

Acute Lupus Erythematosus.

Roberts (Brit. Jour. Derm.) mentions the death of a woman aged 21 from this disease.

The origin of the affection was not determined but on the father's side there was a marked history of tuberculosis (seven of a family of eight having died from pulmonary and taryngeal phthisis) and the post mortem examination in this case showed the mesenteric glands to be the seat of an old caseous tuberculosis.

This woman, who had enjoyed good health, suddenly complained of extreme lassitude, sore throat and difficulty in swallowing which induced her physician to make a diagnosis of quinsy. Five months later she complained of severe pains in her arms and legs. One month later an eruption appeared on the cheeks which increased week by week until the face was swollen and suffused with a full, deep red color symmetrically distributed over the nose, cheeks, eyelids and ears. On the cheeks were dark greenish-yellow crusts beneath which the skin was ulcerated; purpuric petechiæ were scattered over the chest, abdomen and upper and lower limbs; erythematous patches appeared on the palmar surfaces of the fingers and the left great toe. The symptoms steadily increased in severity, a septic temperature set in and the patient died eight months from the first appearance of the disease.

Attention is called to the sex of the patient, the mysterious origin, vague early symptoms, rheumatoid muscular pains and painful spots in various parts, increasing weakness and loss of appetite. The early eruption may simulate erysipelas; later it may exhibit an eczematous appearance. Purpura and hemorrhage are fairly constant. Prognosis is bad; of eleven cases so far reported, ten have died.

He concludes that lupus erythematosus is probably the excretion of a toxin by limited areas of skin followed by a cytolytic and erythematous reaction and its frequent association with adenitis seems to warrant the hypothesis that the disease is caused by a cytolytic poison which originates in the leukocytes of the lymph glands.

Rest in Early Phthisis.

Cobbett, in The London Medical Lancet, advocates absolute rest in the treatment of incipient phthisis—a desideratum, indeed, in any stage of that disease. Tuberculosis in man confers a certain degree of immunity; and the hope of recovery depends

mainly on the acquisition of the new or improved powers of resistance which (however slight they may be) are the causes of this immunity. He has injected human and bovine tubercle bacilli respectively in calves, and the resulting lesions show that the powers of resistance which develop during infection, and which lead in favorable cases to cure, are partly local and partly general. Experiments on the cause of the local immunity in erysipelas would tend to show that the local powers of resistance become quickened and improved; possibly the endothelial cells become less sensitive to the poison by reason of the development of an antibody, so that they now react by multiplication to a concentration of poison which would originally have caused necrosis. But whether the local powers of defense undergo improvement or not, undoubtedly they hold the disease in check until new or improved constitutional powers have been evolved and so far perfected as to work powerfully for the arrest of the disease. In man, as in the ox, the severity of a tuberculosis infection is largely determined by the number of bacilli which gain entrance at the start. As tuberculosis runs its course, and the capacity of resistance increases, it will require as time goes on fresh bacilli to infect any new region in the patient's body. He concludes that resistance to tuberculosis, (like resistance to other infections) is a specific matter, and does not go always (as is generally assumed) with what one regards as the normal bodily health. We prescribe the most nourishing food, fresh air and oftentimes moderate exercise; but he considers we should ever bear in mind the danger of infection of new areas in phthisis, and do what we can to avoid this at least until the patient has become more immune.

Extirpation of a Cancerous Tumor of the Liver.

Israel (Berliner klinische Wochenschrift) says that it is with extreme rarity that a cavernous tumor of the liver is subjected to surgical treatment. The reason for this is that these tumors are, as a rule, small and benign. Occasionally, nevertheless, they reach a large size, and on account of the pain and pressure they produce call for surgical measures. The first operation of this character was done by Eiselsberg in 1893, and altogether six operations have been performed.

He reports a case in a man aged thirty-nine years, who had for a year noticed a mass in the epigastrium which during the past four months had become a burden on account of pain, pressure on the stomach, and vomiting. In the epigastrium there

was an hemispherical mass larger than a fist, which was located partially behind the left lobe of the liver and extended midway between the ensiform and the navel. A pathognomonic sign which it manifested was that when pressed upon it disappeared, and when pressure was relieved it reappeared. A diagnosis of cavernous tumor was thus established, and operation performed.

This is the first case in which diagnosis has been made prior to operation. Incision was made in the middle line, and at once a large dark-bluish-red tumor presented. The liver was mobilized by cutting the suspensory ligament, and in this way the liver lobe was brought into the wound. The left triangular ligament and the coronary ligament were also cut through. An incision was made between the left and the right lobe of the liver at the lower portion, after applying a series of through-and-through silk sutures. When the thick upper portion of the liver was reached a trocar was passed through the liver from front to back, the stylet removed, a rubber tube passed through the cannula, the cannula removed, and the tube tied; in this way the left lobe of the liver was removed in a bloodless manner. The end of the rubber tube was carried into the abdominal wound and the wound closed around it. Primary healing occurred except where the tube was placed. At the end of four days the knot was cut and the tube withdrawn. The patient is cured and his troubles removed.

Treatment of Erysipelas with Diphtheria Antitoxin.

Polak (Klinisch-therapeutische Wochenschrift) has used diphtheria serum in the treatment of erysipelas for the past two years. In most cases the results have been surprisingly good. The fever sinks to normal in twenty-four to thirty-six hours and does not rise again, nor do any complications occur. Coincidentally with the fall of temperature the edema and redness disappear, and the appetite returns. In cases in which the temperature did not fall in two days a second injection brought it down promptly. Injection was made in all cases, even when treatment promised but little or when there was doubt as to the diagnosis between erysipelas and lymphangitis or other affection.

The experience of the author has been that of all means of treating erysipelas, that by means of diphtheria serum gives by far the most certain results. For the purpose of comparison, serum was injected in puerperal infection, mastitis, osteomyelitis, phlegmon, and furunculosis, conditions

supposed to be due to streptococcus infection, but without any appreciable good results.

The Association of Disease of the Mouth with Rheumatoid Arthritis and Certain Other Forms of Rheumatism.

Goadby, in *The London Medical Lancet*, says that in many of his cases a considerable amount of crown and bridge work had been inserted into the unfortunate person's mouth, in consequence of which, he states, he cannot express too great a horror of that potent predisposing cause of infection of the jaws—namely, the ill-fitting, ill-adjusted, ill-conceived, and pernicious cap crown.

As to treatment, 45 out of his 49 cases were treated with autogenous vaccines of the streptobacillus malae. Of these 23 have been cured, inasmuch as their arthritic symptoms have resolved sufficiently for them to go about their normal avocations. In no case was the condition in any way aggravated. The routine method of treatment adopted was inoculation with autogenous streptococcic bacilli vaccines followed by attention to the local mouth infection. Where extraction was deemed necessary, and the question of extraction was generally decided by the assistance of x-ray photographs, preliminary immunization of two or three doses of vaccines has always been undertaken before the removal of the infected tooth. The Dr. is of opinion that harm may result from the free removal of even loose teeth in sufferers from arthritis deformans unless preliminary treatment is adopted, and he has found, as a matter of practice, that increased local swelling and pain does occur in many instances in arthritis deformans after the removal of the teeth, and may even follow an ordinary process of scaling tartar-coated teeth.

The writer does not seek to establish a specific organism as the etiologic factor in all cases of rheumatoid arthritis, infective fibrositis, muscular rheumatism, etc., but that in diseases of the jaws, especially rarefying alveolar osteitis, a streptobacillus is present, pure cultivations of which inoculated into or around the knee joints of rabbits have produced symptoms similar to and indistinguishable from arthritis deformans; that in such diseases of the mouth and jaws the treatment of the disease locally and by means of autogenous vaccines prepared from the streptobacillus has been associated with amelioration and disappearance of the arthritic symptoms in a greater number of instances than can be ascribed to fortuitous coincidence.

Chronic Traumatic Mastitis.

Cheatle (*British Medical Journal*) says that the main causes are corsets which have not been made upon hygienic principles. The Dr. says that traumatic mastitis can be prevented and cured by corsets properly made. These should be made so low that a breast cannot be impaled upon them no matter what position a woman may assume, or so high that they afford support in place of bruising, being properly padded. The Dr. does not believe that a breast suffering from chronic mastitis is likely to be the seat of a cancer, the relation by no means being close. It is true, however, that it is very common to find such stay bones impaling the breast where cancer exists.

Treatment of Rodent Ulcer by Calcio-phosphate of Uranium.

Churchward, in *The London Medical Lancet*, brings before the notice of the profession generally a treatment which he regards as efficient, simple, and inexpensive, in this latter respect differing from radium bromide. Whilst experimenting with calcio-phosphate of uranium he found this mineral to possess great radioactivity. He notes that before treating any case with the mineral it is absolutely necessary to prove how much radioactivity it possesses, as some specimens are very feeble, though others are strong. The mode of treatment is simple. After having proven the strength with the phosphate of uranium a piece of lint is placed over the ulcer, and the mineral is allowed to rest on this for three hours each day, which after a week can be increased to four or five hours. If any dermatitis is produced in the surrounding tissues he leaves the treatment off for two days, and then applies for an hour, or two hours only, for the first week, after which he increases the time gradually. Three successful cases are reported.

Pellagra: Cause and Cure.

"Pellagra is a disease due to eating semi-drying oils (as cottonseed oil, etc.), in quantities that cannot normally be disposed of, in which case they are deposited as fat foreign to the human organism and in their final disposition (by oxidation) there is developed a series of products that act in a deleterious manner upon the cells and intracellular tissues of the body.

"Glyceride of linolic acid (linolin) is the constituent of this group of oils that places them in the semi-drying class. This acid readily combines with the alkalies forming salts that undergo oxidation even more

readily. The oxidation products are the cause of pellagra.

"A casual glance will convince those interested that the cottonseed oil industry parallels the development of pellagra in this country. Occasional cases *may* have occurred before this period, from eating lard obtained from hogs fattened on cottonseed oil or through eating adulterated olive oil. (For years this and other edible oils have been so adulterated).

"Now, linolin has a strong affinity for sulphur and forms a compound which does not oxidize. In other words, it antagonizes the oxidation of linolin. Calcium, given in combination with it, is especially indicated. Hence, as a specific agent, we give *calcium sulphide*.

"Given in doses of one-half to two or more grains, three times daily, it shows its effect in a few hours. In fact, the results are so prompt that I feel like claiming specific action for the drug. We began the use of calcium sulphide eighteen months ago and have never been disappointed with the results.

"Under its influence I have seen stools reduced to normal; the redness of the tongue fade; the eruptions on the hands disappear; the intense burning and fever (so often complained of) yield readily, usually in less than twenty-four hours. One case, in whom the eruption had been continuous for twelve months, although treated by arsenic, was relieved of suffering in twelve hours; was out of bed in three days; and had no erythema in ten days.

"The best way to administer calcium sulphide is in the form of '6 grain granules. They may be given in a capsule, as many as you like."

(Extracts from Dr. Geo. C. Mizell's article, which appeared in the *Journal-Record of Medicine*, June, 1911).

NOTE: When applying this treatment our readers are cautioned to use an active preparation of calcium sulphide; a good many are practically inert. The Abbott Alkaloidal Co., of Chicago, have for years made a specialty of this drug and their granules are reliable.

Leucocytic Extract in Infective Processes.

Alexander reports a series of ten cases in which leucocytic extract was used. These cases do not present any striking successes at first sight. Two factors have militated against more encouraging results: 1. Several of the cases have been handed over for treatment in a hopeless condition. 2. It is difficult to obtain permission to persevere with the treatment. In some cases it is absolutely necessary to push the administration of the leucocytic extract, and the patient occasionally rebels although the tem-

perature chart and the general condition witness an improvement. Thus cases which began to improve were lost. The injections were given into the flank or into the buttock. No attempt was made to approximate the site of injection to the infected part. Pettersson, Hiss, and Zinsser have demonstrated bactericidal and bacteriolytic properties in leucocytic extracts *in vitro*. They agree that the power is not great and quite inadequate to account for the destruction of large doses of the bacillus of anthrax, which were administered in the guinea-pig experiments. They at first considered that the leucocytes supplied complement to the infected organism; for Metchnikoff has claimed that the cytases (complement) are not normally free in the plasma, but are contained in the leucocytes and only given up by them under stress of death or injury. But they have not been able to prove the presence of complement in their extracts. King, however, has recently published experiments which may ultimately show that leucocytic extracts possess the power of reactivating serum, even leucocytic extract itself which has this power is not identical with the complement of the serum, since it withstands heat at 70-75° C., whereas the alexine is readily destroyed at 56° C. Pettersson, Hiss, and Zinsser say that the beneficial effects obtained by the administration of leucocyte extracts are due to the action of digestive substances usually not liberated from the leucocytes, to poison-neutralizing or destroying bodies, which act on the endotoxins and thus relieve the leucocytes of the animal from fatal poisoning and protect the higher cells of the animal so that their functions are not deranged. Where these theories be correct the author has found that a marked leucocytosis followed an injection—a phenomenon not mentioned by other workers. Hiss and Zinsser give figures of blood counts in some of their cases of pneumonia, but these are in relation to the crisis and not to the injections. Floyd and Lucas state that a study of the white count has frequently shown a steady diminution in the number of leucocytes present in the peripheral circulation following the beginning of inoculation until the termination of the disease, possibly suggesting a diminished demand upon their reproduction with the addition of the extract.—*British Medical Journal*.

Eucalyptus Oil Poisoning.

Foggie states that eucalyptus oil, as used within its usual dose limits of $\frac{1}{2}$ to 3 minims, seems never to give rise to any toxic symptoms, but a remedy such as this, which has almost become a household standby for catarrh and the like, has, in not a few cases,

been taken by mistake in larger doses, and in some cases with poisonous effect. The number of such cases is as yet but small (in fact scarcely over a dozen) and their record is naturally fragmentary, as all notes of poisoning are apt to be when the necessity of therapeutic measures must perforce prevent detailed study of the resulting clinical phenomena. In these cases of eucalyptus poisoning the symptoms have varied greatly according to the amount of oil taken, and apparently also according to the idiosyncrasies of the patient. Incidentally it may be mentioned that Davies knew a patient who fainted even with the smell of it. In general, toxic symptoms have been noted after doses of 1 dram or more, but H. S. Taylor speaks of a patient who felt a little giddiness and confusion after $\frac{1}{2}$ dram. Most of the cases, however, developed marked toxic symptoms after doses of 1 dram or more. With such different dosage the time of onset of toxic symptoms has naturally varied greatly—from ten minutes in one case to one or two hours in another. In like manner the kind of symptoms and the order of their development have shown differences. Vomiting was generally the first sign, and it was frequently followed by abdominal pain and diarrhea. In most of the cases, whether preceded by gastrointestinal irritation or not, unconsciousness, varying in degree from mere drowsiness to coma, supervened. In some the first symptom noticed was a giddiness. In all but the slightest cases further effects manifested themselves in pallor, quick pulse, and general collapse, as well as frequently respiratory disturbance. No after effects were noted beyond the temporary odor of the breath.—British Medical Journal.

Urochromogen in Phthisis.

At a meeting of the Vienna Medical Society, Dr. Moritz Weisz gave the results of his research work on the elimination of urochromogen in pulmonary tuberculosis. According to him the appearance of urochromogen in the urine in the course of the disease is evidence of an active phthisical condition, and its persistence and especially its increase in quantity should be regarded as of serious prognosis, and may be taken as a sign of imminent death. Complications of pulmonary tuberculosis or surgical tuberculosis or influenza may also give rise to the appearance of urochromogen, but the prognostic significance is not then the same. It may also appear after chloroform anesthesia or tuberculin injections. The elimination of urochromogen is the result of a toxemia produced by the toxins of the tubercle bacilli. In the majority of cases it is the expression of the passage of the

toxins into the blood in massive quantities, and shows either the serious nature of the pulmonary lesions or the feeble powers of resistance of the patient to the bacilli. According to the author, this elimination of urochromogen is intimately connected with the oxidation processes of the cellular protoplasm connected with the defense of the organism to the bacilli and their toxins. The elimination of urochromogen at the commencement of treatment with tuberculin and its subsequent disappearance demonstrates the immunization of the cells of the organism. On the other hand, its appearance during the treatment shows that the patient is highly sensitive to the tuberculin, or that the dose is too great. The tuberculin treatment may therefore be controlled by repeated examination of the urine for urochromogen.—The Hospital, London.

Salvarsan in Yaws.

H. Alston notes the improvement that occurred in five cases of yaws treated by means of injections of salvarsan, the yaws tubercles drying up from the periphery, so that whitish circles appeared to be surrounding them. The author tried an experiment. He had read that in the case of an injected syphilitic mother, and suckling the baby was cured by suckling the mother, and he was also aware of Ehrlich's view that 606 created an antibody by rapidly destroying spirochetes. He therefore put a cantharides blister on two of the cases being cured by the 606 treatment and injected the serum from the blister into several cases of yaws, the adult dose being 16 c.c. To his astonishment, the serum acted as rapidly as 606. In some cases improvement was noticed in sixteen hours after injection. He injected thirteen more cases of yaws with 606, and the same rapid improvement was noticeable—in some cases as early as sixteen hours after. The author applied fly blisters to some of these cases and used the serum for mere experiment. In every case injected with serum there was a rapid improvement. The author believes that this is the first instance known of a drug producing an anti-toxic serum with curative properties, and the effect, in a boy, of injecting 2 drams and 20 minims of a serum that had not been hyper-immunized was very astonishing.—British Medical Journal.

Treatment of Toxic Dermatoses.

In a number of skin diseases, particularly urticaria and general pruritus, toxic agents, either introduced from without or formed within the body itself, circulate within the blood-stream and give rise to the lesions. C. Bruch believes that by "washing the blood," that is, doing a venesection fol-

lowed by an infusion, a fair amount of the toxins can be removed and that improvement of both subjective and objective signs will follow. The amount of blood to be removed is 250 to 750 Cc., the amount of saline introduced, 500 to 1500 Cc. The small operation can be repeated as often after as is considered necessary, especially since, with proper veins and a suitable needle, no skin incision is necessary. Excellent results were seen in pruritus universalis, urticaria, erythema exudativum multiforme, and dermatitis herpetiformis, while in psoriasis and eczema there seems to be no effect. Blood examinations made after the infusion usually show a pronounced decrease in the number of eosinophiles. Instead of being introduced directly into the veins, the saline solution may also be employed as hypodermoclysis.—Berl. klin. Woch.

Digipuratum.

The advantages of digipuratum over other preparations of digitalis are discussed from a pharmacological point of view by R. Gottlieb and R. Tambach. The first and foremost requirement of every preparation of digitalis is accurate dosage, for no therapy can be regarded as safe unless the exact strength of the drug employed is known. Digitalis leaves in their usual form do not permit of accurate dosage, since the percentage of active ingredients fluctuates within wide limits, according to age of the drug, its origin and time of collection. A chemical assay is impossible, hence the strength is usually tested on the frog's heart in titrated preparations. There is no advantage in using the isolated active ingredients, since they are not exactly alike in action and are too irregularly absorbed. In order to insure rapid action after oral administration, the preparation used must be sufficiently potent and easily absorbed, and, in order to bring about an effect of some duration, the active ingredients should not be too rapidly broken up within the organism and eliminated.

Digipuratum is an extract of potent leaves, prepared at a low temperature and without the use of strong chemicals. The solvents employed are such that most of the injurious and irritating digitonin and the inert matter are left behind. The glucosides are retained in their natural combination with tannic acid, which permits of much more ready and uniform absorption. The extract prepared in this way will keep for years and can be diluted to any desired strength.

In order to insure a uniform action, the extract is finally standardized by the frog experiment. This physiological test con-

sists in determining the smallest dose which will cause systolic arrest within a given time. This amount is termed a unit and the strength may be expressed in so many units per gram. In this way, digipuratum is superior to other preparations, since it is always of uniform strength, independent of crops, manner of collecting, etc. Further analysis has shown that digitoxin and the other glucosides are present in about the same preparation as in the crude drug.

The clinical results have justified the expectations. The irritation produced is slight as compared with other preparations and the potency is always high and uniform. In uncomplicated heart cases, the diuretic effect is three times stronger than with titrated leaves. The administration of digipuratum is almost the same as that of the active principles, but does not possess the chief disadvantage of digitoxin, that of irregular absorption.—Muench. med. Woch.

The Advantages of Modern Lithotriety.

Luys describes the advantages which the modern operation of lithotriety has over hypogastric section. One objection urged against the former has been that it is an operation in the dark. This objection may be disposed of by the statement that cystoscopy permits adequate inspection of the work accomplished by the lithotrite. In the hands of the skillful this operation is not a difficult one. The steps in the operation are as follows: 1. Dilatation of the urethra if this is narrow or stenosed. 2. Preparation of the bladder; if this has a capacity less than 150 grams, it should be treated previously by means of lavage and instillations of nitrate of silver. 3. The urine should be examined for glucose and albumin and particularly for its content in urea. 4. By means of the cystoscope it is necessary to determine the nature, size, and location of the calculus. 5. On the eve of the operation a sound should be passed into the urethra, and the patient should be given a purge. The operation comprises three steps: *a*, the crushing of the stone with the lithotrite; *b*, the evacuation of the fragments with a syringe or an aspirator; and *c*, the examination of the interior of the bladder with the cystoscope, to determine whether all the fragments have been removed. The contraindications of lithotriety are as follows: If the calculus is too large, exceeding 7 cm. in length, one may experience great difficulty in crushing it. If the stone is too hard even for a large lithotrite, one should not persist in the crushing operation, but should proceed to hypogastric section.—La Clinique.

Operative Treatment of Renal and Vesical Tuberculosis.

Kummel (Therap. d. Gegenwart) is an adherent of active surgical intervention in the treatment of renal tuberculosis. In his hospital division 125 operations have been performed for this condition. These are classified as follows: Seven nephrotomies for disease of both kidneys, including one bilateral nephrotomy, and 118 nephrectomies for tuberculosis of one kidney. Of the latter, twelve were operated upon before the introduction of the new methods of examination, with three deaths. Since the use of ureteral catheterization and tests of kidney function there have been 106 cases with four operative deaths. As to the end results, 18 patients died sixteen months after operation, and of the remaining 84, nine died in the first two to four years, one each after ten and thirteen years, three after an unknown period, while reports are wanting in regard to four. The other patients are alive and in the enjoyment of good health. His first case of nephrectomy for renal tuberculosis operated upon in 1888 was still alive a few years ago. He believes that even if improvement occurs without operation the patient is left with a kidney subject to pyonephritic processes with the risk of infection of the bladder and other portions of the body. Although the tuberculin treatment has yielded some good results in children, it must be remembered that renal tuberculosis in childhood is of a much milder type and seldom manifests itself by severe phenomena. Even in these cases his experience has shown that a permanent cure is exceptional and recurrences are the rule. The presence of urine free from tubercle bacilli does not always point to a healthy condition of both kidneys, since the ureter of one may be occluded and severe tuberculous changes or pyonephritis thus marked.

Salvarsan.

From a careful study of over 100 cases of "neurorecurrence" succeeding the use of salvarsan, witnessed by various observers, the author is inclined to believe with Ehrlich that the symptoms are not due to a toxic action of the drug, but are manifestations of a syphilitic process set up in nerves confined in narrow bony canals by spirochetes left undestroyed by the salvarsan injection. Analysis of the cases showed that neurorecurrences were most apt to occur in cases treated with salvarsan at the beginning of the second stage, in cases with extragenital chancres (especially when situated in the head), and in cases where severe headache had been present before the injection. Pati-

ents showing these predisposing factors, the author thinks, should not be treated with salvarsan, or, at least, the dangers of such treatment should be fully explained to the subject beforehand. All patients receiving their first injection of salvarsan should be enjoined to report at once to the physician should such symptoms as vertigo, tinnitus, or visual disturbance appear. In this event an intensive antiluetic treatment should be instituted, even in the presence of a negative Wassermann reaction. The author comments on the marked efficiency of salvarsan, used intravenously, in all beginning nervous disturbances in syphilis. He advocates dealing energetically with syphilis in general, recommending an intravenous injection of salvarsan, followed by a vigorous course of mercurial treatment, and this in turn by a second intravenous injection of salvarsan. The frequency of serious involvement of the nervous system in syphilis would, if this were done, be markedly diminished.—Benario, *Munchener medizinische Wochenschrift*.

Presence of Gonococci in the Blood in Gonorrhea.

Filipo Lofaro shows that researches have been made to prove that gonorrheal arthritis is directly caused by the presence of the gonococcus in the joints. It also has been proven that the usual complications of gonorrhea are but new localizations of the germs. The author made a study of the presence of the germs in the circulating blood in 67 cases of acute and chronic nephritis. He demonstrated the presence of the germs in the blood in 58 per cent. of these cases. They were not present in the acute cases, but in the chronic cases, in which there was greater virulence of the germs or deeper lesions, the gonococcus was present. The author does not know how these germs penetrate from the urethra into the blood, but supposes that in more severe cases they crowd the lymphatics, and in this way get into the blood.—Il Policlino.

Saline Injections in Sciatica.

The author adds 8 new cases of sciatica treated by this method to 4 cases previously reported. All of the former series had been cured by the injections. In the present series 4 were cured, 2 showed improvement but were lost sight of, 1 received one injection but did not return, and 1, after slight improvement, became definitely worse.

The injections are made at the sciatic foramen or at the gluteal fold, according as pressure causes greater pain at one point or the other. To find the foramen, the author draws imaginary straight lines from the

posterior superior spine to the tip of the great trochanter and the middle of the ischial tuberosity, bisects the angle contained by these lines, and measures two and one-half inches along the bisecting line. At the gluteal fold the nerve lies midway between the trochanter and the tuberosity. To ascertain whether the needle has penetrated into the nerve, the plunger of the syringe is gently pressed so as to expel a few drops of the solution. If the needle is in the nerve the patient experiences a sensation as if something were trickling down within the leg to a variable distance.—Hay, Glasgow Medical Journal.

Traumatic Neurasthenia—An Outline.

Howitt defines neurasthenia as a functional disturbance of the nervous system characterized by weakness and irritability, lying between hysteria on the one hand and insanity on the other, occasionally overlapped by one or the other, far more frequently the former. Traumatic neurasthenia is that form of the disease which is associated with physical injury and shock, or with emotion and fright, most commonly with a combination of both. Symptoms are almost entirely subjective and principally referred to the nervous system. As the symptoms of neurasthenia are principally subjective, they lend themselves to malingering, although Howitt thinks malingering pure and simple is rare. What is common is for a patient to persist in the belief that he still has the symptoms with which he has become familiar, but which have really disappeared. The prognosis of traumatic neurasthenia is almost invariably good with regard to treatment. The abuse of the bromides is warned against. Too prolonged rest is not beneficial. As soon as possible some occupation, mental at any rate, should be found. Such patients are best treated away from home and sympathizing friends.—Transactions of the Life Assurance Medical Officers' Association, London.

Albumin Reaction in the Sputum and its Significance.

Gantz and Hertz dilate on the relative neglect of the albumin reaction in the sputum on the part of diagnosticians. This is obtained by freeing the sputum in any pulmonary affection of such constituents as mucin, nuclealbumin, blood, etc. The result is obtained by treating the undiluted sputum with acetic acid and filtering. The filtrate is then boiled, and it may be necessary to neutralize excess acid with potassic hydrate. In regard to the significance of the albumin when found, the latter is constantly present in inflammatory pulmonary

affections and edema, but is always absent in bronchitis. These two axioms cover almost the whole of pulmonary, including bronchial, lesions. Thus tuberculosis, in so far as it is inflammatory, gives a positive result in any stage. Fibroid phthisis doubtless constitutes an exception.—Ber. Klin. Woch.

Knee Chest Position as a Sign of Pericarditis.

Hertz (La Tribune Medicale) cites four cases of pericarditis with marked effusion in which relief of the dyspnea was secured by the knee chest posture, by the spontaneous endeavors of the patient himself to find a comfortable position. He knows of no other condition in which the patient assumes this posture of his own accord. The action seems to be purely mechanical and not due to the exact pathologic lesion as the sign has been noted in rheumatic, tuberculous, post scarlatinal and nephritic pericardial effusion.

We would add the caution that this sign is merely suggestive; also that when the knee chest posture is not spontaneously assumed by the patient it might be well to place him in it, if necessary with a pillow or strap support, both for diagnostic and therapeutic purposes.

Contraindications For Lavage.

Hammer (Virginia Medical Semi-Monthly) says that lavage and introduction of the tube are contraindicated:

1. In all constitutional and local conditions which may be aggravated or life endangered by the irritation and exertion of lavage: (a) Pregnancy. (b) Heart disease with a state of defective compensation—heart neuroses, angina pectoris, myocarditis, and fatty heart in an advanced stage. (c) Aneurism of the large arteries. (d) Recent hemorrhages of all kinds, including apoplexies, pulmonary, renal, vesical, gastric, rectal, and hemorrhagic infarctions. (e) Advanced pulmonary tuberculosis. (f) Advanced pulmonary emphysema with bronchitis. (g) Cerebral hemorrhage. (h) Advanced cachexia. (i) Presence of continued or remittent fever.

2. The stomach and intestinal diseases which are contraindications for the use of the tube are: (a) Ulcer, with recurrent hematemesis and evidence of blood in the stools. (b) Palpable carcinoma of the pylorus, with vomiting coffee-ground material, and the classical symptoms of cancer. (c) Stomach and intestinal troubles with acute fever. (d) Hypersensitive gastric mucosa easily started to bleeding. (e) Secondary gastric affections whose dependence upon a

distinct and more important primary disease is evident.

The Slowness of Certain Stomachs to Empty.

It has been noted that ptosed stomachs with ptosis of the pylorus sometimes manifest considerable slackening in the evacuation of their contents without any anatomical or clinical causes other than the ptosis to explain it. This retardation in the process of emptying may exist in stomachs which fill normally, and in which peristalsis is normal. Chilauditi, of Vienna, has been drawing the attention of the Societe de Radiologie Medicale de Paris (Bull. et mem., No. 19, 1910) to some considerations which, in his opinion, may not only explain this condition but also help to clear up the pathology of some affections of the duodenum, including ulcer. He insists particularly upon the point that for the proper discharge of the normal functions of the orifice of the stomach it is essential that there should be a condition of acidification above the pylorus and of alkalinization below. Normally, the stomach contents being acidified by the gastric juice, the pylorus opens to discharge a portion of them, which passes into the duodenum. The pylorus is closed again immediately, and is not reopened until the alkalinization of the duodenal contents has taken place. But an abnormal anatomical configuration of the gastroduodenal tract interferes with the rhythm of the process.

In a ptosed stomach with ptosis of the pylorus, the greater part of the chyme propelled into the upper portion of the duodenum—the ultra-pyloric portion, which is considerably in evidence after the contraction of evacuation, and which has been named by Holzkecht the “duodenal bulb”—may be arrested in that bulb for a longer time than normally. This arrest is due to the fact that the ptosed stomach and pylorus carry away the mobile portion of the duodenum, while the fixed portion, which commences as the summit of the subhepatic angle, remains in place, resulting in a protraction of the duodenal bulb. Further, owing to the fixity of that angle and the lowered pylorus the chyme remains in the bulb, and is not immediately propelled by the contractions into the middle part of the duodenum. The upright instead of horizontal position of the bulb, and the lack of tonicity in its walls, have also to be reckoned with. Thus there is a delay in alkalinization by the bile and pancreatic juice, and consequently the pylorus remains closed in spite of the preparation and sufficient acidification of the stomachal chyme above. The eventual emptying of the bulb

may take place because of the action, tardy though it be, of the alkaline juice of the glands of Brunner, or because the muscles of the portion have not lost the whole of their tonicity, or because massage and movement and abdominal compression have assisted the passage of the aliment.

The author believes that the very satisfactory results which have been noted in accelerating the stomach evacuation by making the patient lie on the right side for four hours after the principal meal are really due to a movement of these duodenal contents which permits the reopening of the pylorus. The weight of the chyme when the patient is in such a position assists its progress. Massage, also, although it should never be increased with the idea of forcing the pylorus, may have good results when directed upon the duodenum. He emphasizes the point that ulcer of the duodenum may arise as a result of this special duodenal configuration. It is the first or juxta-pyloric portion of the duodenum, rendered anatomically abnormal by elongation and atony, which holds the stagnant acidified chyme, and certain of the acids may readily have a serious effect upon its altered coating. This needs to be considered in relation to the fact that, in 95 per cent. of the cases of duodenal ulcer, the ulcer occupies a position in the first portion of the duodenum, and in the majority it is found in the immediate neighborhood of the pylorus.—British Medical Journal.

Salvarsan in Obstetrics.

Lemeland has made a study of all the cases reported as treated with salvarsan during pregnancy, as to the effect on the mother and on the fetus. Up to date there have been 39 cases of treatment during pregnancy reported, but of these seven were reported with no detail. In the case of the women treated it is shown that the effect of the drug is the same as in other patients, abortion is not produced, the patient bears the drug well, and there is no intoxication of the fetus. The Wassermann reaction is affected in the mother just as in other cases, while in the child it disappears more slowly than in the adult. Of the infants there were 30 living and two dead. In the direct treatment of the infants with hereditary syphilis, out of 66 treated there were 45 cures and 21 deaths. In 18 cases the treatment was given to the infant through the mother. Here we find 6 successes and 12 failures, with 3 deaths. The drug does not have the effect by passing into the milk, but by the development of antitoxins in the blood of the mother which passes to the infant. Serum from persons

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are usually more severe and intractable to treatment during the summer months.

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and careful regulation of the diet, it is always possible to control in short order, even severe attacks of entero-colitis, summer diarrhea or other bowel affections, and impart to the organism the exact tonic stimulation and recuperative power essential for complete and permanent recovery.

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treated with improvement followed by relapse. Thus we see that in congenital syphilis the drug has beneficial and curative effects—L'Obstetrique.

On the Question of Marriage of Girls with Heart-Disease.

Jashka discusses this problematic subject in much detail. He is concerned chiefly with the effects of pregnancy on the mother. In regard childbearing by women with vulvular lesions he cites many figures to show that the danger is exaggerated. Women with such lesions continue to bear children. The type of a case described by obstetricians as contraindicating pregnancy and as furnishing a special obstacle to delivery is an extreme one and leads us to another type of case, to wit, that with impairment of the myocardium; with actual chronic insufficiency. The Diagnosis of the intimate nature of this lesion is difficult at best. Many varieties are found under this head, for chronic insufficiency of the heart is not necessarily due to degeneration of the myocardium. Fatty infiltration, gutter-heart, congenital stenosis of the arteries, pressure lesions, etc., may cripple the normal action of the heart and must be separated from actual disease of the myocardium, which latter, when in evidence is sufficient to contraindicate marriage and pregnancy. In regard to pure neuroses of the heart, these not only do not contraindicate marriage, but may at times be improved by it.—Mun. Med. Woch.

A Preliminary Note on the Nutritive Value of White and of Standard Bread.

Hill and Flack, (British Medical Journal) considering the public interest excited in this matter, and the paucity of exact experimental evidence, Flack and the author have carried out a research on rats. They chose rats because they are carnivorous animals and like man in this respect. They obtained as many young tame rats as they could and fed them for three weeks, some on standard bread, and for a second three weeks on white or standard flour. Both the bread and flour were obtained in a country town, from shops that supplied most of the inhabitants. The flour used for the bread were not the same as the flour obtained from the corn merchant. The rats were divided into two lots of 25 each, and were kept under exactly the same conditions. The total weights of each lot were almost exactly the same at the start.

The rats were given bread or flour and water and no other food. At the end of three weeks they changed from bread to flour to see if the baking had anything to

do with the result they were obtaining, but found this made no difference.

The result was astonishing. From first to last the rats fed on white bread or flour did far the worse. Ten of them died, and five of these were eaten by the others before their bodies could be removed. Five of those fed on standard bread or flour died, and two were eaten. The weather was very cold at first, and this partly explains the heavy mortality. The white lot stood the cold worse.

Tables show the great difference in the putting on of weight in 15 rats of each lot. The standard increased $27\frac{1}{2}$ per cent. against 12 per cent for the white flour rats in the last three weeks. At the end of the period the white 15 were nearly all losing weight. The white-fed rats were far less lively and less sleek in appearance.

It seems clear that either the standard flours contained something essential to growth which was not in the white flour, or that the white flours contained something detrimental—for example, improvers. The writer tried another lot on white flour plus an amount of wheat germ about equal to that in standard flour, and found the results every bit as good as for standard flour. It is highly probable that the germ, the growing part of the wheat grain, would contain amino-acid groupings essential for growth, and possibly bodies which activate the enzymes engaged in the digestion of the proteins of wheat. Treatment of the white flour may have destroyed the bodies.

Testing the pancreatic digestion of their standard and white flours they found the standard in every case gives them earlier the Adamkiewicz reaction for tryptophane, showing that this essential amino acid is split off earlier, and therefore is probably better absorbed in the intestine and utilized in the body.

Finally, the doctor tested on 15 individuals the acidity of a weighed quantity of standard and white bread chewed in the mouth for two minutes. They found no difference in this respect. It has been stated that the acidity of white flour is greater and leads to decay of the teeth. They assert they cannot confirm this, at any rate; for the breads tested by them,

The author are now doing controls on further groups of rats—three groups of 25 each: (1) whole meals, (2) standard, (3) white flour. The first week's weighing show white flour markedly inferior, and whole meal the best. The results given appear so striking that they feel justified in publishing this preliminary note.

It seems clear that children of the poor, who are largely fed on bread and margarine or bread and jam, ought to have the

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Dr. J. Allison Hodges, President of the University College of Medicine, Richmond, Va., under date of February 6, 1903, writes:

My experience with the Chloride of Calcium Water in several cases of Skin Diseases has been especially gratifying.

I believe it to be a water of superior and unusual properties, and a specific in many blood and skin disorders.

The Mecklenburg Mineral water is well known and of recognized virtue as an acid solvent in cases of Uric Acid Diathesis.

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I recommend it as doing what is claimed for it.

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Many waters on the market have been largely used and achieved quite a reputation, as a result of judicious and persistent advertising, without having any particular merit as true medicinal waters. Your waters, therefore, with their unusual and effective composition, should be considered a very valuable business property.

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standard and not the white bread tested by Flack and Hill. How far the results are due to treatment of their whole flour by "bleaching," etc., they are not able to say and cannot therefore generalize that all white flours are worse than standard.

The Corpus Luteum.

Chiri (L. Obstet.) says that the evolution of the corpus is the same in man as in mammals; only the duration of the development varies, the general process being the same. In pregnancy there exists a sort of activity which acts strongly upon the ruptured follicle to transform it into the corpus luteum, and also more feebly upon the unruptured follicles and the cells of the stroma. The corpus luteum has the power to lengthen the spaces between the periods, and its extirpation brings them closer together. It is the prolonged action of this body which prevents menstruation during gestation. During a normal menstruation we do not find differentiated follicles, but a normal corpus luteum; five or six days after the period there are found a follicle developing and a corpus in state of regression; fourteen or fifteen days after the period the follicle is ripe, or ruptured, and the previous corpus is atrophied; seventeen to twenty days after the period we cannot find a new follicle in process of differentiation, but a corpus is seen in process of formation; twenty-five to twenty-eight days after the period we find a perfect corpus luteum and no new follicle. Thus we conclude that the follicle ruptures twelve to fifteen days before the period and the corpus then begins to develop. In mammals who have no interstitial gland the corpus does not cause the rut. Ancel and Bouin advance the theory that there are two kinds of animals; first those with spontaneous ovulation, followed by the formation of a corpus luteum and reappearing at regular periods; second, animals which form a corpus luteum after copulation only, a corpus of gestation. There is a difference of the ovarian structure in these two kinds of animals; this consists in the existence of an interstitial substance in the ovary in the animals with spontaneous ovulation. The interstitial gland of the ovary of mammals with spontaneous ovulation and the periodic corpus of the spontaneous ovulation are homologous formations; they are glands of internal secretion which determine the sexual characteristics; they correspond to the interstitial portion of the male testicle. The corpus of gestation exists in all mammals; it is adapted to gestation and not related in function to the tissues contained in the male.

Rupture and Perforation of Pyosalpinx. Lejars (Semaine Medicale,) reviews what Bonney and others have published on the subject, emphasizing the necessity for bearing in mind the possibility of rupture of a pyosalpinx when confronted with menacing peritonitis of unknown origin. The history of the case generally shows some acute flare-up of an infectious process just before, and a slight contusion afterward inducing the rupture or perforation. The pyosalpinx may also rupture during delivery or measures to induce abortion. Cherassu recently reported a case of this kind: A woman introduced a long bone canula supposedly into the uterus and during the night abdominal symptoms developed with fever; pulse was weak and 130, and the abdomen was found flooded with pus traced to one tube containing several small interstitial abscesses. The tube was removed, as the condition of the patient did not permit hysterectomy. She died in less than five days. Galliard has reported a case in which a woman convalescing from typhoid suddenly developed severe colic, vomiting and severe tympanitis, high fever and pulse of 160. When the abdomen was opened no perforation could be found in the intestines but the right tube was swollen and perforated and it was excised; the patient rapidly recovered. Typhoid bacilli were cultivated from the pus in the excised tube. The author found streptococci exclusively in one case of diffuse peritonitis from rupture of a left pyosalpinx, and death speedily followed. Latzko and Cotte have each reported a case of rupture abscess in an ovary. The author has also encountered two cases in which the tube had perforated and had become gangrenous, the condition resembling exactly those in a gangrenous appendix. The peritonitis following perforation of a pus tube is, as a rule, unusually grave and rapidly progressive: the pains are localized in the pelvis, and are severe from the first; the findings with vaginal palpation may give the clue to the suppurating focus in the uterine adnexa. The condition is frequently mistaken for appendicitis or a ruptured tubal pregnancy. Differentiation is important on account of the necessity for prompt operation without temporizing. Removal of the diseased tube and possibly the uterus with the adnexa is the safest course.

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Gastric Syphilis.

Syphilitic disease of the stomach is not generally recognised in the text-books, and indeed it is usually taught that there is no syphilitic lesions of the alimentary canal between the pharynx above and the rectum below. The fact that gastric symptoms, simulating gastric ulcer, may be cured entirely by anti-syphilitic remedies even after the more usual treatment of gastritis or gastric ulcer has failed after prolonged trial, would seem to indicate the possibility of syphilis of the stomach being a real pathological entity. A case in point has recently been recorded at considerable length by Beclere and Bensaude in the *Bulletin et Memoires de la Societe Medicale des Hopitaux de Paris*, 1911, p. 680. The gist of the case is that the patient was a man aged fifty-four, who had suffered from severe epigastric pain extending over eleven years, and a more recent loss of weight of 20 kilogrammes; examination with bismuth and the rays showed a definite degree of hour-glass contracture; and no remedies brought about any material relief until, when surgical assistance was being considered, it was decided to give bichloride of mercury hypodermically a trial first. Two centigrammes were given by the intra-muscular method every two days and the patient experienced rapid relief, increased in weight, lost his pains, became able to digest almost anything; and whereas before this treatment was adopted he could scarcely walk, he is now able to go about vigorously.—Exchange.

Thickened Pleura and Persistent Pleuritic Effusions.—Dieulafoy (*La Presse Medical*) mentions some cases of this nature and discusses the problem of treatment. The first case was that of a young woman who in the space of two months required paracentesis thoracis 15 times, the total amount of fluid withdrawn amounting to 40 litres. The pleurisy terminated in a cure, but its nature was proved by the subsequent development of pulmonary tuberculosis. The second case was that of a man aged 35, of previous good health, who developed pleurisy with effusion. Subsequently at regular intervals over a period of years he required the withdrawal of fluid from the chest, there being no other evidence of disease. The pleura was evidently much thickened, but still there was a remarkable freedom from symptoms other than those due to the mechanical pressure of the fluid, even though at times during its later stages such fluid has been hæmorrhagic or purulent and fetid. Microscopic examination of the fluid showed the pres-

ence of granular leucocytes, endothelial cells, streptococci and pneumococci. The micro-organisms, however, on cultivation were found to be very attenuated in virulence. The third case, that of a man 59 years of age, was of a very similar nature. For 18 years thoraco-centesis was performed at intervals without incident. Then the fluid became sanguinolent with a large proportion of lymphocytes. The pleura was much thickened, but the existence of the condition seemed to have very little effect on the general health of the patient. There was no sign of pulmonary tuberculosis, and the fluid in this case was proved to be sterile: the nature of the thickening was therefore not explained. As regards treatment, Dieulafoy refers to a method of decortication of the lung practiced by M. Delorme. Before such an operation is undertaken it is, of course, necessary to endeavor to ascertain beforehand the expansibility of the lung, as well as the thickness and resistance of the enveloping pleura, by means of radioscopy and radiography. But in view of the maintenance of good general health, the complete though temporary relief obtained by withdrawal of the fluid, and the danger and risk of failure involved in such an operation, one would naturally reflect seriously before suggesting or undertaking it.

Relations Between the Urinary Apparatus and Genital Apparatus in the Woman from the Point of View of Pathology.—Bazy (*Bull. med.*) says that the frequency with which infections of the bladder and uterus coincide. He believes that the reason for this is simply that the same microbe attacks the two structures, there being no direct communication of the infection from one organ to the other. Fibromata, uterine displacements, and urinary infections favor the production of cystitis, but when they are removed the cystitis does not cease but remains, if of bacterial origin. The effects of tumors are purely mechanical. Retention of urine caused by retrodisplacements is rare. Prolapsus, on the contrary, will often cause retention. The prolapsed wall carries with it the ureters. They become obstructed and inflammation of the calices and pelvis of the kidneys takes place. He believes that we should consider as separate the lesions of the genital and urinary organs, and should not exaggerate the influence of the genital organs and their diseases on the bladder.

The Charlotte Sanatorium

Charlotte, N. C.

Surgical Department

THE SURGICAL ROOMS OF THE CHAR- LOTTE SANATORIUM

The Sanatorium is especially arranged for the handling of a large number of operative cases. Seven rooms have been set apart for the operative department. The designers spared no pains or expense in making these rooms perfect for which they are used, and they are examples of modern efficiency. This department is cut off from the rooms in which the patients are subsequently cared for. They face the South and have an abundance of light and ventilation.



Seventh Street Entrance.



Minor Operating Rooms.

ways ready for instant use.

The first room is used for a minor operating room and can also be arranged for examinations and treatments. Tables of the latest pattern are used for operations or examinations, or both as may be necessary. The room is shown prepared for a minor operation with all the necessary dressings and instruments. The cabinets in this room are of steel and glass and contain dressings and sterilized materials of all kinds for general use in the surgical department. In this way the sterilized materials are kept free from dust or other contamination and are al-



Instrument Room.

The next room is the instrument apartment. It contains large instrument cases of the latest models. These cases are filled with every modern surgical instrument, many of which are imported. The collection is most complete and any needed instrument is at once available for any emergency that might arise. To one side are the solution stands in which the standard stock solution are kept, so that the working solutions can be obtained at any moment.

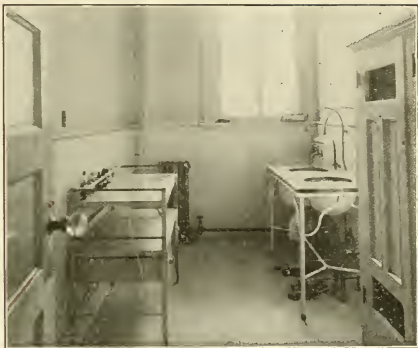


Across the hall from the two rooms previously mentioned is the dressing room for the surgeons. In this room are six roomy lockers and a double lavatory of glass and porcelain. The lavatories were specially made for the Sanatorium and have complete foot control. Adjoining this room and a part of it, is a private bath and toilet. Every convenience is at hand for the operator and his friends to become thoroughly prepared before going into the operating rooms.

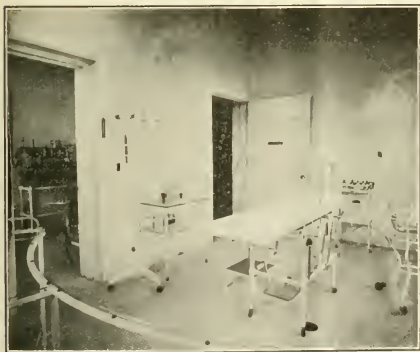


Surgeon's Dressing Room.

The next room is the nurses' dressing and preparation room. A large double lavatory with solid glass top and porcelain bowls are used for hand sterilization. These are operated entirely by the foot so that the hands need not touch anything after the preparation has once begun. A large slop sink is set in one corner for solutions and soiled discharges from the operating room. A white enamel table is used for emergency medicines and materials for quick dressings.



Nurses' Dressing Room.



Operating Room A.

This shows operating room A, and indicates the completeness and convenience of the arrangement. The table is of the latest model of white enamel frame, with glass and nickel plated top and nickel plated steel fixtures. On this the patient can be put in any position at a moment's notice. A large circular glass table is used for the instruments and dressings and can be wheeled to the operators' side where everything is at hand. The glass top stool, medicine and anesthetic tables are easily placed at any desired point. The floor is tile, the

wainscoting of marble with enamel ceiling. every thing can be thoroughly cleaned.

The woodwork is in white enamel and



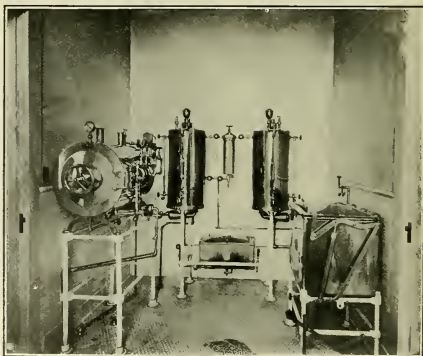
Operating Room B.

fitted up with the most improved-table, stands and other accessories that go along with a modern operating room.

This room is Operating Room B, which has the same dimensions walls and floors as operating room A. Both rooms have large windows facing to the East, South and West, and large sky-lights overhead. In addition to these lights there are in each of these rooms, ten electric globes which combined given an artificial light equal to 1000 candle power. So that an emergency operation at night can be done as well as a formal operation at noon. This room like the other, is



The sterilizing room is, of course, one of the important rooms connected with the operating department. It is situated between the two operating rooms A and B, and communicates with both of them. This room is furnished with two water sterilizers, a large pressure sterilizer for dressings, a full sized instrument sterilizer and a roomy utensil sterilizer in which the largest pans, basins or pitchers can be boiled. By these means everything going into either one of the operating rooms can be



Sterilizing Room,

made perfectly sterile and absolutely safe.

This shows the hall leading from the main corridor to the different operating rooms. The first door to the left opens into the minor operating room, the second door is the instrument room, the ones at either end of rolling stretcher, open into operating room A on the left and operating room B on the right. The first door on the right is the surgeons' dressing room and the next opens into the dressing room for the nurses.



Hall.

The solution basins for the hands are shown on stand between the dressing rooms. The patients' carriage or rolling stretcher is shown beneath the clock.

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The operating Department in General Surgery is in the hands of the following Specialists:

GENERAL SURGERY—G. W. Pressly, M. D.; C. M. Strong, M. D.; B. C. Nalle, M. D.; and A. G. Brenizer, M. D.

GENITO-URINARY SURGERY—A. J. Crowell, M. D.

EYE, EAR, NOSE and THROAT—A. M. Whisnaut, M. D., and J. P. Matheson, M. D.

CHEMICAL and MICROSCOPICAL LABORATORY—L. B. Newell, M. D.

LABORATORY OF SURGICAL PATHOLOGY—A. G. Brenizer, M. D., Director.

The second annual report of the surgical department shows that 444 operations were performed during the year 1910.

Diagnosis of Whooping-Cough by Means of the Reaction of Bordet-Gengon.

—Delcourt (Arch de Med. des Duf.) says that the discovery by Bordet and Gengon of a small coccobacillus in the expectoration of children having whooping-cough has revolutionized the diagnosis of this disease. We do not now have to wait for the appearance of the whoop before isolating the child from other children. This microbe is found in pure culture in the exudation of the bronchial tubes, which is rich in leucocytes and white in color. They are much more frequent at the beginning of the disease than after. The phagocytes have acted upon them. When the infection has become mixed they are much harder to find. The micro-organism is ovoid, sometimes short and resembling a micro-coccus. It can be stained with Kuhne's blue and toluidine blue, the outside and the extremities being of a deeper color than the rest of the cell. This microbe has been cultivated by its discoverers in a medium prepared by themselves. The colonies found on the third day are white, circumscribed and projecting. Its identification becomes more difficult as the disease advances. When complicated with bronchitis, broncho-pneumonia or influenza it is impossible to find the specific micro-organisms, but its presence may be proven by the fixation of the alexin. Gengon and Bordet have demonstrated in the serum of adults who had pertussis the presence of an antipertussis sensitizer which demonstrates the true nature of the disease. In the adult and in many children the whoop and the cry are absent. Yet these persons have an abortive form of the disease, as may be shown by this test. All children who, during an epidemic, show obstinate cough and vomiting should be subjected to this test. He concludes that pertussis of the abortive type is frequent among children and adults; prevention will seek out these cases; the symptom may be very slight; the diagnosis can be made only by the Bordet-Gengon test; the fixation reaction is of value in differential diagnosis.

A New Local Anaesthetic.

Max Strauss, in the Munchener Med. Woch., describes a new local anaesthetic which has been named cycloform and is the isobutylic ether of p-amidobenzoic acid. It consists of a white powder, crystalline in form, slightly soluble in water, but readily so in alcohol, ether, and benzol. Average sized cats have taken as much as a grain of the substance by the mouth without obvious ill-effects. A saturated aqueous fenders a rabbit's cornea insensitive in two

minutes. A solution of 0.01 per cent, gives an anaesthesia comparable with that of cocaine. The drug has disinfectant properties also, as has been proved by experiment. The author has made use of it to dust over small recent wounds which need to be kept open, and also in the form of an ointment in the treatment of painful burns. He has found the ointment useful for chaps, eczema, intertrigo, inflamed haemorrhage, and painful ulcers of the leg. It can be used for a long time without local irritation and without losing its power, and it does not delay the healing of wounds.—The Hospital. London.

Value of Examination for Acetone in Gynecological.—Paleani has made examinations of the urine in several cases of internal hemorrhage, for acetone, with a view to ascertaining the value of the test in diagnosis of gynecological cases, which has been maintained by some authors. In the cases tested by him it was found that in spite of there being present in the abdomen large amount of blood the test was not positive during the time previous to operation. In one old case the test was positive, however. In some other gynecological cases in which there was no blood in the abdomen the test was found to be absent. The obvious conclusion from the author's cases is that the presence of acetone in the urine of gynecological cases has no bearing on the diagnosis of internal hemorrhage.—Il Policlinico.

The Mortality of New Orleans.—During the month of July, 1911, the total deaths from all causes in the city of New Orleans numbered 535, 318 white and 217 colored. The annual death rate in a thousand of population was 14.03 for the white population 25.78 for the colored, and 17.21 for total white and colored. The deaths of children under five years of age numbered 196, 65 white and 41 colored; under one year of age 42 white and 25 colored.

Deviations of the Knee in White Swelling of the Knee.—Ducroquet and Veru state that in clinics for orthopedics one is struck by the frequency of the deviations of the knee due to tuberculosis. This deviation is at first pure flexion, and this will remain indefinitely if the child does not walk. Later we see a complex angular deviation consisting of moderate flexion, abduction of the leg, and outward rotation of the foot. This is produced by walking, occurring early in patients who are badly immobilized, and late in those who have not complete ankylosis. The results are the same in both conditions, as manifested in the limitation of motion. The position

is assumed by the patient of lessening the length of the limb, which cannot be entirely flexed in bringing the leg forward. Flexion of the knee is indispensable for normal walking. The patient rotates the leg forward, which produces this peculiar deformity. To prevent this deformity all that is necessary is a proper apparatus to prevent motion at the knee, and which shall extend above to the ischium and great trochanter, and below include the heel and back part of the foot. There should be rest in bed for six months, then walking with a proper apparatus, which must be worn for another year. Then an articulated apparatus should be worn until the child has perfect motion. If this is not attained and a perfect ankylosis occurs with slight shortening or flexion walking is good with a slight limp. If flexion is less than ten degrees the apparatus should still be worn until flexion improves. If this does not occur he must walk in external rotation and deformity will certainly occur. A resection is to be recommended.—Archives de Medecine des Enfants.

Scientific Medicine vs. Quackery.

Dr. Wm. J. Robinson has written an article which perhaps more fully than any other published within recent years, shows the inconsistencies and dangers of quackery in all its forms. He tells many wholesome truths about Christian Science, osteopathy, mental healing, advertising quacks, medical institutes and patent medicines, which should be brought to the attention of every lay reader.

Physicians who desire, as every physician should, to combat the wave of quackery and charlatanism which is now spreading so rapidly over our land, should secure copies of this article and place it in the hands of their patients and their friends.

This article, which originally appeared in The American Journal of Clinical Medicine, has been reprinted in a neat booklet form and may be secured in any quantities at the rate of \$2 per 100, which, we are informed, is considerably less than it cost to produce it. We would suggest that any of our readers who are interested in this important topic, should communicate with The American Journal of Clinical Medicine, Ravenswood Station, Chicago.

Prompt Relief in Sciatic Pain.

In reporting his experience in the treatment of sciatica, Fred E. Davis, M. D., writes as follows in Annals of Gynecology: "I have been giving antikamnia & codeine tablets a thorough trial in the treatment of sciatica and I must say that my success has been phenomenal indeed. I have also



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PROPHYLAXIS—The very nature of artificial foods and cow's milk predisposes to their rapid decomposition. A few drops of Glyco-Thymoline added to each feeding corrects acidity and prevents disorders of stomach and intestines.

TREATMENT—As an adjunct to your treatment of summer complaints, Glyco-Thymoline used internally and by enema corrects hyper-acid conditions, stops excessive fermentation and prevents auto-intoxication. It is soothing—alkaline—nontoxic.

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induced two other physicians to give them a trial and their success equals or surpasses my own. I meet with many cases of sciatica and before adopting antikamnia & codeine tablets I used a great deal of opium and morphine to relieve the pain. Since then, I have not given either. One of my patients had been confined to bed for three weeks during her last attack of sciatica. I prescribed one antikamnia & codeine tablet every four hours and in forty-eight hours she was up and about and has not felt the pain since."

Nerve Storms of Women.

The nervous crises of women, which detract so much from their usefulness and happiness, owe their origin in a vast majority of cases to irregular or suspended functions of the generative organs, and whilst frequently the correction of the latter will result in the disappearance of the former, in some instances these remote manifestations of ovarian or uterine disorders may be continued over such a long period that they become fixed, nervous wrongs, and remain even after the abatement of the initial abnormality.

Every physician knows the potent influence irregularity of the female generative organs has on the higher centres and fully realizes the importance of seeking the underlying cause.

By reason of wide deviations from right modes of living, ovarian and uterine disorders are far more frequently met with to-day than formerly and physicians are devoting much of their efforts to a clearer understanding of the functions peculiar to women. Judiciously chosen therapeutic measures will do much to aid in the restoring of suffering women to a well ordered life, particularly if dietary and hygienic regimes of a higher plane are instituted.

Inasmuch as it is usually the demand for relief from the mental vagaries of this class of patients that sends them to the physician, it becomes necessary at once to offer relief for this phase of the diseased condition. As a rule the needs are for nerve soothing and soporific agents. For this purpose Neurosine has proven a most efficient combination and is largely used. Just as soon as control over the mental manifestations of the ovarian or uterine disease is attained, treatment, directed against the latter, must be instituted. As a rule there will be found interference with the menstrual function. To correct this, no more valuable product than Dioyiburnia is at the physician's command. It is a combination of well chosen drugs which have a correcting predilection for ovarian and uterine tissues, and in conjunction with Neurosine will serve to bring

the patient back to normal vigor, the one correcting irregularities of the functions peculiar to women while the other controls the nervous storms which arise as a result of the primary disease.

Therapeutic Activity Plus Palatability.

The popularity of a remedial agent that is therapeutically active and palatable is assured, for beyond these qualities there is nothing to be sought. These are the features of Cordial of the Extract of Cod Liver Oil Compound (Hagee) that make it such a favorite with physicians.

As a reconstructive and tissue nutrient, it stands the most rigid clinical tests and the prescriber may feel sure that definite results will follow its administration. One of its fields of usefulness is in the protracted convalescence consequent upon a severe infection such as typhoid fever. Cord. Ext. Ol. Morrhuae Comp. (Hagee) stimulates the reconstructive functions and aids materially in hastening the return to health.

Takes the Place of Cocaine.

No doctor or dentist has any longer a valid excuse for using cocaine. For Anesthaine is a good substitute. It serves far better the various purposes of minor surgery. It is free from the dangers of cocaine and is fully as effective as a local anesthetic.

It comes from the laboratory of the Abbott Alkaloidal Co., Chicago, in one-ounce bottles. It is ready to use without dilution, and without sterilization for it is already sterile. It is of exact composition and will keep indefinitely with reasonable care, on the part of the user, to keep the bottle securely stoppered when not in service.

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This substitute for cocaine is surely worthy of investigation by every one doing minor surgery. It is a time-saving, worry-sparing, pain-eliminating tool which no doctor or dentist can afford to be without.

Each return of the season in which these affections prevail witnesses an increase reliance on the part of physicians on

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Cough
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Glyco-Heroin (Smith) has always been distinguished for the exceptional promptness with which it relieves respiratory distress, promotes expectoration and allays inflammation of the bronchial and pulmonary passages.

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Treatment of Yaws with Salvarsan.

Yaws has points of similarity with syphilis, so much so that some observers have believed them to be the same disease. Though of the same nature in some ways, they are distinct and different diseases, the former being caused by the *Treponema pertenue*, the latter by the *T. pallidum*. Apes can be inoculated with both these organisms—the presence of the one not conferring immunity against the other—that is to say, a monkey suffering from yaws can be successfully inoculated with syphilis, and get the chancre and other lesions. With the two treponemata resembling each other morphologically so closely, it at once became interesting to see if salvarsan or "606," which had been so successful in syphilis, would be similarly so in yaws. Professor Ehrlich sent samples of his drugs to Castellani, in Ceylon, and to Strong, in Manila. Castellani got quite good results in acute early cases, while his chronic old cases seemed much less amenable to treatment. Strong, on the other hand, seemed to be successful even in chronic cases, and the way the lesions in early cases cleared up led him to believe that "606" would take its place as a specific against yaws in much the same way as quinine has done against malaria, or mercury against syphilis. Following on this work comes a paper by Alston, of Trinidad, in the *British Medical Journal* of February 18, 1911, on the curative effect of salvarsan on West Indian cases of framboesia. Rost, a surgeon to a German cruiser visiting Trinidad, made the injections for him, three adults and two children being operated upon. Nine grains (06 grm.) in an emulsion with 5 to 6 c.c. of sterilized olive oil, was used for the adults, the injection being made deeply into the muscle of the buttocks. In as short a

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period as twenty-four hours, a marked improvement was noticeable, the yaws tubercles drying up from the periphery, so that whitish circles appeared to be surrounding them. The improvement continuing, Alston aware of Ehrlich's view that "606" created antibodies by rapidly destroying spirochætes, placed cantharides blisters on two of the cases being cured by the "606" treatment, and then injected the resulting serum into several untreated cases of yaws, the adult dose being 16 c.c. To his astonishment the serum acted as rapidly as the "606"; in some cases distinct improvement being noted as soon as sixteen hours after the injection. Further cases treated by injection of "606" again showed rapid improvement, and the serum obtained from these acted in a similar manner to that got from former cases. Control experiments, such as blistering healthy persons and injecting normal serum into yaws cases and blistering cases of yaws, and using their own serum for their injection gave negative results. Heating the serum from cases that were being cured, after "606" injections, did not alter its curative effect in any way, and Alston therefore abandoned his provisional hypothesis of fixation of the complement by the toxin.

During the experimental work, no other treatment of any kind was used, even baths not being permitted; so any fallacies in the work arising from that can therefore be eliminated. The next point of interest as regards the "606" treatment of yaws must necessarily be as to the nature of the permanency of the cure. So far, one injection only has been the routine treatment employed. With this, one of Castellan's cases relapsed in a month.

Strong believes that in a few of the most severe instances of the disease, where the ulcerations are extensive and of long standing, a second inoculation given about three weeks after the first may be advisable, and Alston now in his paper states that cases will require a second injection. The latter, however, does not state why he considers a second injection necessary, and the making of such a statement would seem to show that the drug had not been so efficacious as he had at first believed, or that relapses had taken place. It is too early yet to say with any degree of definiteness what the ultimate result of the "606" treatment will be, but there is evidently a great future for it if subsequent results are as good as those published up to date. Up till the present time the treatment of yaws has been a peculiarly hopeless one, the disease running a protracted course, with drugs influencing the symptoms and lesions but little. Mercury, one would have thought, should have done

good, but though a specific for the treponema of syphilis, it has always proved useless for that of yaws, and some have even thought that its administration instead of doing good did harm. Potassium iodide on the other hand would appear to be useful in yaws as well as syphilis, though to nothing like so great an extent in the former as in the latter. If then—with the treatment of a disease so abundant in parts of the tropics in such an unsatisfactory position—a new drug of undoubted efficacy has been discovered, then all interested in tropical medicine must heartily rejoice. With the evidence before one there is evidently little doubt about the matter. To conclude then, it would seem that a new era has dawned for the treatment of yaws, a troublesome and mutilating disease which has in the past caused untold misery and suffering and which has practically defied all therapeutical methods."—*The Journal of Tropical Medicine and Hygiene.*

Biological and Therapeutic Action of the Rontgen Rays.

Vittorio Maragliano says that the x-rays are essentially a source of disturbance and destruction of the tissue cells, healthy and diseased. The inflammatory action caused by these rays is not primary, but secondary to the products of cellular necrosis. The rays produce cellular alterations which generally do not show themselves quickly, but only in process of time. Their effects are cumulative. They last for a long time and are generally irreparable, or repaired with difficulty. There is a great difference in radiosensibility among the cells of the various tissues, healthy and diseased. The rays act at a distance and by the production of destruction of cells, through secondary rays produced in the tissues. They diminish the defensive powers of the healthy organism against infections. The rays have had therapeutic results in lymphatic leucemia, myeloid leucemia, pseudoleucemia, Hodgkin's disease, Mikulicz's disease, anemia with splenomegaly, pernicious anemia, Banti's disease, diseases of the respiratory system, bronchial asthma, syringomyelia, Graves' disease, and acromegaly. The good effects are due to the projection of minute emanations from the anticathode, which fix themselves on the cells and cause nuclei of decomposition in them. These rays will be useful when they can exert their destructive action on tissues that are injurious to the organism and yet are sensible to the destructive action of the rays, while the normal tissue cells are not injured. —*Giornale di Electricita Medica.*

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Importance of Analysis of Mother's Milk in Some Cases of Dyspepsia in Nurslings.

Barbier thinks that it is especially important in cases of dyspepsia in infants that are nursed to have an exact examination of the milk. There are considerable variations at different times of the day, and according to the food taken by the mother. The milk having the least casein and butter is obtained in the morning, while the richest is obtained about 4 in the afternoon. If we give the mother a diet rich in albuminoids we get a milk that is rich in casein, and in which the butter is increased. If she takes many carbohydrates we get little casein and much butter. We can thus see how a knowledge of the analysis of the milk may aid us in arranging the hours of nursing, placing the nurslings farther apart, or may assist us in modifying the food of the mother so as to get more or less casein or butter than she is producing.—*Journal de Medecine de Paris.*

Study of Simultaneous Bilateral Tubal Pregnancies.

Launay and Seguinot have observed a case of bilateral tubal pregnancy in which one tube contained twins, three fetuses of the same age being found at operation. This is the only undoubted case of this condition published up to date. There are found in the literature fourteen cases of bilateral tubal pregnancy, but none with twins. The histories of these fifteen cases are given. For the existence of such a condition one must have lesions of both tubes so as to prevent the passage of the ovum through the tube, at the same time that the mucous membrane of the tube is capable of lodging a normal ovum. Impregnation must occur in two ova at the same time and one of them must have a double germ. The diagnosis of this condition has never been made until operation was undertaken. In the author's case the diagnosis was appendicitis. Mere recurrence of pregnancy, with fetuses that were not alive at the same time is not included in this category. Most of the patients were primiparæ and had bilateral tubal inflammations. The author's case was a nullipara without any inflammatory pelvic condition and in perfect health. One tube ruptured three weeks before the other, giving rise to the diagnosis of recurrent appendicitis. The only possible treatment of this condition is removal of both tubes.—*Revue de Chirurgie.*

Caesarean Section.

Purslow's technique is as follows: The usual preparation of the abdomen having

been carried out, the incision is made sufficiently long—about seven inches will usually suffice; it may have the umbilicus above its centre, and should always be made so as to skirt well round the umbilicus and not to encroach on the tissues of the latter. The peritoneum should be divided to the full extent of the skin incision and its edges held here and there with catch forceps. The uterus now comes into view, and it will often be found rotated, so as to bring the left appendages nearer to the middle line; it must be put straight before it is incised. The next step is to open the uterus by the vertical median incision. The great danger of this part of the operation is the liability to excessive hæmorrhage, and the only satisfactory way of dealing with it is to make the incision of the uterine wall and the extraction of the fetus as rapidly as possible. The incision with the scalpel may be about one and one-half inches long, and may be continued until the membranes are seen to protrude; the scalpel can then be laid aside, and the incision rapidly enlarged with scissors, or the whole incision may be completed by the scalpel. If the membranes are already ruptured, care must be taken that the fetus is not injured by the scalpel in making the uterine incision. When the incision is completed the membranes should be opened by scalpel or scissors and the fetus seized, preferably by the feet. If the placenta is encountered in the incision it should be rapidly separated by the fingers. A most valuable manoeuvre at this stage is for the assistant to hook up each end of the incision by passing an index finger into it during the extraction of the child; this prevents the uterus falling back into the abdomen as soon as it is emptied, and enables it to be readily brought out through the abdominal incision. It is well to arrange beforehand that some one shall take charge of the child, otherwise, in the excitement of the moment, it may not receive proper attention. As soon as the child is removed the cord should be clamped in two places with long bladed pressure forceps, and divided between; this saves time, and the tying can afterwards be done by the person to whom the care of the child is entrusted. The placenta and membranes should be carefully detached and peeled off the uterine wall, and while this is being done the uterus should be enveloped in sterilized hot cloths, and gently kneaded to ensure contraction. This is usually sufficient to arrest hæmorrhage, but if it continues, the assistant should grasp the broad ligament on each side with the finger and thumb whilst the operator continues to knead the uterus. Although the hæmorrhage during the uterine incision and the extraction of the child

“hope of relief is the all pervading thought of the sick, and it is that ability of the attending physician to relieve suffering, which builds his reputation and with it his practice.

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looks very alarming, good contraction usually ensues as soon as the uterus is completely emptied and kneaded by the hand.—The London Medical Lancet.

Autoinoculation.

Synott remarks that the thorough comprehension of the phenomena of autoinoculation enables us to explain many clinical problems hitherto obscure. An intelligent understanding of its *modus operandi* will be a valuable aid to the general practitioner. Thus in all active febrile infectious autoinoculations may be excessive, and measures to control them, such as ice, absolute rest in bed, etc., are imperatively indicated. Poulitices or other measures to induce increased circulation through the diseased focus may do serious harm in generalized infections by causing still further escape of bacteria or their products into the circulation. For example, in a severe pneumonia with hyperpyrexia, fomentations to the chest may induce excessive autoinoculation and retard recovery by causing a prolonged negative phase. In chronic conditions and in all nonfebrile conditions, in which bacterial vaccines are indicated, much good may be accomplished by periodic autoinoculations, artificially induced by exercise, Bier's apparatus, massage, or any of the various measures at our command for the production of an increase of circulation through the infected part. Unless the protective substances in the circulating blood have free access to the infected area, a high opsonic index may not necessarily react in the direction of a cure. The walls of an old sinus with a poor blood supply by reason of pent up discharge, due to obstruction to outflow, or coagulation, offer the infective micro-organisms a highly suitable nidus in which to multiply. Again the contents of an infected cavity, whether it be the peritonæum, pleura, or an ordinary abscess, may be low in protective substances while the bycirculating blood may contain an excess. Lymphogogues are indicated in such cases. Flushing the sinus with a solution containing four per cent. of sodium chloride and one per cent. of sodium citrate in sterile water promotes by its supertonicity increased osmosis through the sinus walls, and a more copious flow of lymph ensues. Inasmuch as the sodium citrate prevents coagulation, the lymph, rich in protective substances, will find its way to the surface uncoagulated. In the case of a cavity, on the other hand, drainage is followed by the introduction of fluids from the blood, containing an excess of protective substances, and the cavity is quickly healed. The same precautions must be observed against inducing an excessive negative phase from

an autoinoculation as are followed in using vaccines. In comparing the respective advantages of autoinoculation and inoculations with bacterial vaccines as a means of treatment in bacterial infections, we must not forget Wright's warning that in the former method we use unmeasured doses of living cultures and therefore it must be uncertain and can never be altogether dissociated from risk.—Brit. Med. Jour.

Sterilized Solutions for Hypodermic Use.

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Our readers are advised to consult the display announcement of these sterilized solutions appearing in the advertising pages of this issue of Charlotte Medical Journal, which gives a complete list of the preparations as well as some important suggestions for their use.

Intraperitoneal Ruptures of the Bladder.—Galaktionow (Deutsche medizinische Wochenschrift) records fifteen cases with five recoveries. A search of the literature revealed altogether sixty-four cases of recovery. In one of the author's own cases the operation was not performed until the lapse of eighty hours, and notwithstanding this a cure was obtained. He urges that the use of the catheter for diagnostic purposes should be restricted as much as possible in view of its slight utility and the great risk of infection. Only a single catheterization immediately before operation is justified; the diagnosis should be made from the general symptom-complex present.

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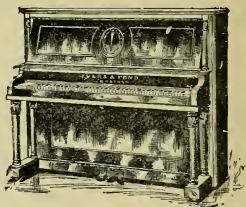
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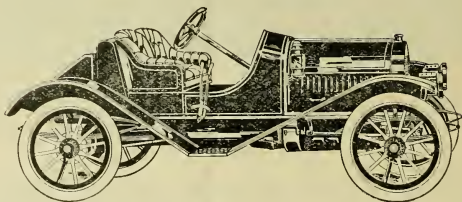
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Treas. S. C. Stanton, M. D., Chicago, Ill.
Next Meeting Detroit, Mich., Sept, 13th-
14-15, 1910.

**SOUTHERN SURGICAL and GYNECOLOGICAL
ASSOCIATION.**

Annual Meeting at Washington, D. C.,
Dec, 19 21, 1911.
W. D. Haggard, M. D., Sec.,
Nasheville, Tenn.
Rudolph Matas, Prest. New Orleans, La.

SOUTHERN MEDICAL ASSOCIATION.

Annual meeting at Hattiesburg, Miss.
Nov. 14-15-16, 1911.
Oscar Dowling, M. D., Sec. Shreveport, La.
Isadore Dyer, M. D., Pres.
New Orleans, La.

**TRI-STATE MEDICAL ASSOCIATION OF THE
CAROLINAS AND VIRGINIA.**

Annual Meeting at Columbia, S. C., Feb.
23-24, 1912.
Ralfe E. Hughes, M. D., Sec.,
Laurens, S. C.
J. Howell Way, M. D., Pres.
Waynesville, N. C.

**MEDICAL ASSOCIATION OF THE STATE OF
ALABAMA.**

Annual meeting at Birmingham, Ala.,
April, 19 1912. J. N. Baker, M. D., Sec., 602
S. Perry St., Montgomery, Ala.
L. C. Morris, M. D., Pres.
Birmingham, Ala.

MEDICAL ASSOCIATION OF THE SOUTHWEST.

Annual Meeting at Oklahoma City, Okla.
October, 1911.
F. H. Clark, M. D., Sec., El Reno, Texas.
M. L. Perry, M. D. Prest., Parsons, Kans.

FLORIDA MEDICAL ASSOCIATION.

Annual meeting at Tallahassee, Fla.,
May, 10, 1911.
J. D. Fernandez, M.D., Sec.,
Jacksonville, Fla.
James D. Love, M. D., Pres.,
Jacksonville, Fla.

MEDICAL ASSOCIATION OF GEORGIA.

Annual Meeting at Augusta Ga., April,
17-18-19 1912.
W. C. Lyle, M. D., Sec. Augusta, Ga.
W. L. Felts, M. D., Pres.,
Corroilton, Ga.

KENTUCKY STATE MEDICAL ASSOCIATION
Annual meeting at Paducok Ky., Oct.
1911.

Arthur T. McCormack, M. D., Sec.,
Bowling Green, Ky.
Jas. G. Carpenter, M. D. Prest., Stanford,
Ky.

LOUISIANA STATE MEDICAL SOCIETY.

Annual meeting at Shreveport, La.,
May, 30-31, June 1st, 1911.
Joseph D. Martin, M. D., Sec.,
141 Elk Place, New Orleans, La.
E. J. Garner, M. D., Pres.,
1641 First St., New Orleans, La.

MISSISSIPPI STATE MEDICAL ASSOCIATION.

Annual Meeting at Jackson, Miss, April 11,
1912.
E. F. Howard, M. D., Sec.,
Vicksburg, Miss.
D. J. Williams, M. D., Pres.,
Ellisville, Miss.

**MEDICAL SOCIETY OF THE STATE OF NORTH
CAROLINA.**

Next Annual meeting at Charlotte, N. C.,
June 1911.
C. M. Poole, M. D., Pres.,
Salisbury, N. C.
D. A. Stanton, M. D., Sec.,
High Point, N. C.

NEW MEXICO MEDICAL SOCIETY.

Annual Meeting at Las Vegas, N. M.,
(date not yet decided.) 1911.
Dr. R. C. McBride, D. Las Cruces N. M.
Secretary.
F. B. Test, M.D., Prest, E. Las Vegas, N. M.

SOUTH CAROLINA MEDICAL ASSOCIATION.

Annual meeting at Columbia, S. C.,
April 20, 1912.
Edward A. Hines, M. D., Sec.,
Seneca, S. C.
J. W. Jervy, M. D., Pres.
Greenville, S. C.

TENNESSEE STATE MEDICAL ASSOCIATION.

Annual Meeting at Nashville, Tenn.,
June 11, 1911.
Geo. H. Price, M. D., Sec.,
146 8th. Ave., Nashville, Tenn.
John A. Witherspoon, M. D., Pres.,
Nasheville, Tenn.

MEDICAL SOCIETY OF VIRGINIA

Annual Meeting at Richmond, Va. Oct. 24-
27, 1911.
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Farmville, Va.
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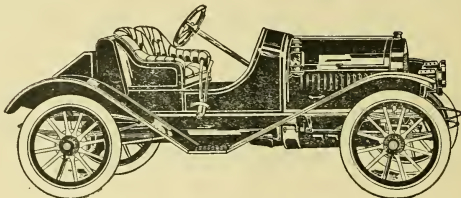
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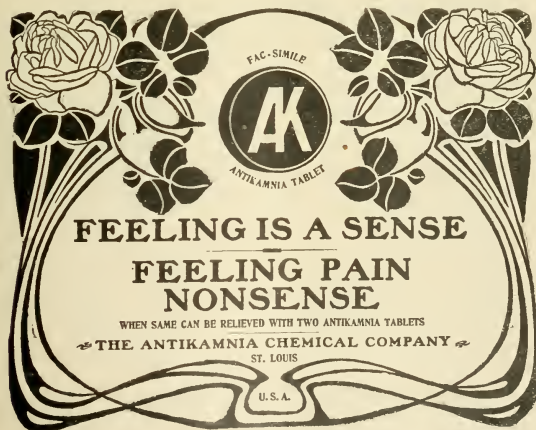
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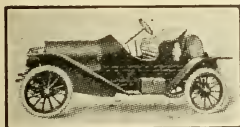
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The Charlotte Medical Journal

VOL. LXIV

CHARLOTTE, N. C., OCTOBER, 1911.

No. 4

President's Annual Address, North Carolina Medical Society.*

By C. M. Van Poole, M.D., Salisbury, N. C.

Fellow Members:—

Difficult, indeed, is the task when I attempt to find words fittingly appreciative of the distinguished honor you have conferred upon me by making me president of your honorable body. In accepting the honor thus bestowed I am doubly mindful of the fact that with the honor goes also a tremendous responsibility and an immense amount of labor. To view the former without the latter would arouse feelings of gratitude which a tongue inspired with human thought alone could have no power to express.

We are assembled in the fifty-eighth annual meeting of this society—an age that should command the highest respect for its years, and that should carry with it that maturity of thought and action which should impress every one with its character and dignity. The honors, responsibilities and privileges of this body, as well as its dignity and progressiveness, should multiply with its added years and should be shared in by the whole profession of the State.

TRIBUTE TO DR. GRAHAM.

Today we are the honored guests of a people unexcelled for their patriotism and culture, whose open-handed hospitality is equalled only by the hearty appreciation of its guests. Our pleasure at this meeting, however, is saddened by the absence of the smile of welcome and warm grasp of the hand of our former fellow member and leader, the late Dr. Joseph Graham. How we shall miss him at this meeting! He was a big-hearted man, a man of even temperament, loyal to duty, true to his friends, and of a forgiving spirit to those who chose to differ with him. His place in the work of this society will be hard to fill. All honor to his name, and peace to his ashes.

Meeting, as we are, in this highly favored center, with its genial climate, hospitable homes and courtly people, I feel assured all come with one common purpose, namely, the advancement of science, the upholding of the honor and dignity of our noble art, and the promotion of the good of our fellow man.

For thirty-one consecutive meetings I have listened to my distinguished predecessors as they, in turn, have delivered their

respective addresses on various subjects. The ground has been pretty well covered, and yet, as I survey the field of past and present, and compare the needs of by-gone days with the actual necessities of the present and near future, one subject seems to stand out high above all others, namely, that of thorough qualification along the line of literary and general scientific training prior to entering the medical profession, and the maintenance of high ideals after becoming a member of the same. This is a subject of vast interest to the medical profession and equally so to the people as a whole. As to the laws governing this matter we have some, they might and should be better, but be this as it may, we must strive to maintain that high standard in the profession to which we are entitled and at the same time protect the people against incompetent and unworthy practitioners. It only remains for the loyal, prudent and conservative members of the profession, aided by an enlightened, intelligent and humane citizenship, unbiased by extraneous or fortuitous circumstances, to see to it that the laws we have are enforced in the fullness of the letter and spirit, ever holding the scales of justice evenly poised that its good name be in no wise stigmatized, and we confidently predict that the time is not far distant when this will be done, and the high standard of medical education in North Carolina will be the pride and boast of an enlightened and appreciative citizenship.

AIM OF MEDICAL RESEARCH.

The ultimate aim of all medical research is the prevention and treatment of disease. Medical science deals with objects of a high order, and gives laws to an art that concerns one common humanity. It seeks to solve the mysteries of the phenomena of life, and to this end investigates the remarkable chemistry of the human organism, pries into the cunning web of animal textures, and tries to gain an insight into the variety and complexity of vital apparatus and their normal operations.

From the information thus acquired, medical science extends its researches into the changes of anatomical structures, the character and order of deranged functions, and the significance of symptoms, which express morbid conditions. To become acquainted with the results of such manifold and complicated investigations, and to learn how to utilize them in an enlightened and conscientious manner, for the relief of suffer-

*Read before the Charlotte meeting of the North Carolina Medical Society, June, 20-22 1911.

ing and the restoration of health, requires a great deal of patience, aptitude and time. In order that we may become proficient the mind must dip down deep into the sciences of the world. They do not come to us spontaneously nor without effort on our part, for it is well known that any department of human knowledge consists of a body of facts, doctrines and propositions, which are obtained by that course of reasoning which proceeds from the known to the unknown, from the evident to the obscure, and from the simple to the complex. The powers of the mind, which are called into requisition to this end, do not differ from those which are employed in the ordinary transactions of life; but the difficulty of obtaining accurate observations increases in proportion to their variety and complexity. To disentangle the involved web of occurrences, to specialize with exactness the conditions that determine and regulate them, baffle the common ways of investigation, and require improved methods.

LITERARY EDUCATION.

How important, then, it is that, before entering upon the study of medicine there should be a competent literary education, for the scientific mind encounters an infinitum of problems of which the uncultivated has no conception. To ascertain principles that underlie apparently disconnected facts calls for patient and laborious research; constancy and perseverance in tentative efforts, a mind fruitful of suggestions, and a natural disposition to find pleasure in the pursuit of knowledge for its own sake. How inadequately the unscientific man is furnished to arrive at rational explanations of phenomena beyond the limited sphere of his experience, or which occasionally excite his wonder and curiosity is amply demonstrated by the prevalence of popular errors and the crude and fanciful notions in relation to natural events. Coincidences are mistaken for uniformities, occult causes are conjured up to shed light upon strange occurrences, a plausible guess stands for proof, and one happy hit overbalances a hundred failures. But how different this whole matter appears to the educated man! He has a nucleus around which his future experiences and researches may accumulate, but, in order to profit by his experience, he must employ the same methods that led to the acquisition of the knowledge he has previously appropriated to himself; and this is the more necessary as he will constantly be thrown upon his own resources in his future life. He will then fully appreciate the value of science which confers the power of applying to one object the knowledge acquired from another. Hav-

ing already mastered a large number of facts, their remote connections and interdependence, he is prepared to apply the principle of inductive reasoning wherever it is possible. In proportion as he has habituated himself to reflect on the agreement or identity of facts that come under his observation, and in proportion to the acuteness he has acquired to discover resemblances and to suggest explanations, in the same proportion obscurities will clear up, and enable him to work out a rational course of therapeutics.

Having thus prepared himself to absorb and assimilate scientific problems, the young man should be very careful in the selection of the medical school from which he expects to graduate. In justice to the student, therefore, it is but fair to say that no medical college offering the degree of doctor of medicine should be satisfied without the very best equipment and a superior teaching force. The day has passed when superficial teaching and a mere smattering of medical knowledge was sufficient. The licentiate should not only have a competency of theory and book knowledge but his laboratory and hospital training should be such as to make him, at least, the peer of his brother practitioner with whom he is to compete. He should also possess a competent knowledge of human nature, for it is evident that the relation of the physician to the public is rapidly changing and that the former must prepare himself for the continually increasing responsibilities which are certain to be placed upon his shoulders. He will be expected, shortly, to be as proficient in the art of prevention as in that of healing. He will be called upon to be the medical advisor, not only of individuals, but of communities and governments. There will be a demand for him to fill great positions of trust. As an investigator and teacher he will mold and reform public opinion. It is, indeed, a great career that is opening up for the medical man, but one that will demand sacrifice and service both personal and public. But as the profession is ennobled and greater demands are made upon it by the public, so will men of greater and greater calibre be induced to enter its ranks. In fact, the medical profession deserves to stand in the very front rank of citizenship, and, with the modern methods of teaching, the common desire and concerted effort to raise the standard of medical education, great things may be expected. It is a well known fact that during the last two decades the United States has been the scene of such intense revolutions in the domain of medical education as has never before been seen in the history of medical science in this or any other country. The

accomplishment of modified plans for medical study, the co-operation of medical colleges and universities, the raising of the standard of primary education, the management of financial and administrative questions, the relations of educational institutes to hospitals, etc., have created exceedingly important problems. At the present time we are experiencing an evolution in medical education, in which not only students and physicians are interested, but also the administrators of communities—in fact the people of the entire country. It is the opinion of some that the training of capable and reliable physicians should not be relegated to individual institutes, but treated as a subject of national concern. In the United States the interest has, in the main, been focussed upon undergraduate education, while in the old world the conditions are totally different. Medical education and training there has always been regarded as the responsible task of universities and governments, and in the course of its systematic development has attained to its present commanding height. There is no doubt that on the other side of the Atlantic constant interest has been evinced in favor of improving medical undergraduate education, but in the absence of urgent problems in this direction the interest of the medical world has, in recent times, veered towards postgraduate education. However, if the teaching and training of the colleges and universities of America is thorough, and if the requirements of examining boards are such as to force applicants to possess a competent knowledge before they are allowed to enter upon its practice, then there is no good reason why the standard of medicine in the United States should not equal that of any other country.

QUALIFICATION.

There should be a single portal to the practice of medicine—thorough qualification. Individuals who are to treat human ailments are alike in many respects. In the first place they must make diagnosis in order to recognize what they are endeavoring to treat, and, secondly, what they may fail to do in certain cases, even as much possibly as the things they do, may mean the life or the death of the patient. For these reasons everyone who is to treat human ills, regardless of the particular methods employed, should be required to have a thorough training in the fundamental branches of medicine.

The objection to medical sects, therefore, is not so much because they are sects as it is that their followers enter the medical profession with a smaller amount of preliminary and medical training than do regular physicians.

If the standard is to be high, let the requirement apply to all alike.

PAST AND PRESENT.

And now, fellow-members, a word as to the work of the past year and the actual needs of this present.

Among the many scientific investigations of today nothing seems to surpass that of hookworm disease. It is a well-recognized fact throughout this nation that the greatest campaign that has ever been inaugurated against the hookworm in any country is now being carried on in North Carolina under the efficient leadership of our Dr. John A. Ferrell. We congratulate him upon his unprecedented success and at the same time wish to commend the physicians of the State who have so nobly assisted him. If the present rate of prevention and eradication is continued many precious lives will be saved to the State.

STATISTICS.

The anti-tuberculosis work in the State is commendable and has already done a great deal of good, but this line of scientific investigation has, to a great extent, been handicapped on account of the lack of interest and co-operation of the vast majority of the members of the profession. The laity, however, as is the case in the hookworm campaign, is being educated and brought to a knowledge of the fact that as much or more can be done along the line of preventive measures as that of cure. In most cases, when this matter is brought forcibly to bear upon them, there is hearty co-operation. This should be an incentive to the profession to do greater work in this respect. The medical profession in North Carolina is not inferior to that of any other State, but the progressive spirit of prevention has not yet thoroughly been grasped and utilized by a large per cent. of the profession. A brief reference to statistics bearing upon this matter might serve to stimulate the members of this body to greater action.

TUBERCULOSIS WORK.

We gather from the reports of the National Association for the Study and Prevention of Tuberculosis that over 600 cities and towns in the United States are engaged in the war against consumption, and that there are over 1,500 agencies at work in this crusade. This shows an increase of about 700 per cent. in the last seven years. There are 421 tuberculosis sanatoria, hospitals and camps; 511 associations and committees for the prevention of tuberculosis; 342 special dispensaries; 68 open air schools; 98 hospitals for the insane have made special provision for their tuberculosis inmates. Prac-

tically all of this within the last seven years.

With such rapid recruiting of the fighting force, who can lose heart as to the outcome of the great battle?

SANITATION.

The State Board of Health is revolutionizing sanitary matters in North Carolina. While we did not get all that we asked for, yet we are bound to acknowledge that the work of the State legislature along this line was commendable. With the appropriation more than doubled, with better sanitary regulations for the counties and with more power vested in those entrusted with this work, public health and sanitary conditions in general will certainly be improved.

We are living in a progressive age, and the time has come when this society should provide a suitable badge or button of recognition for its members. I therefore recommend that the society provide a suitable pin, badge or button. It need not and should not be large nor very expensive, but something neat that could be worn the year round. On it should be placed a monogram or initials, such as might be agreed upon by a proper committee.

CARE OF AGED.

It would be well also for the society to take the initiative looking to the care and maintenance of the aged, deserving indigent members of the profession of the State. This would only be demonstrating to the world the well-known fact that medical men do more charitable work than any other profession in existence.

APATHY.

The organized work of the profession in North Carolina during the past year has, in some localities, been highly commendable, while in others the opposite is true. Your president has tried, in vain, largely, to create enthusiasm and to revive a progressive spirit, but it seems, in many of the districts, that "Ephraim is joined to his idols and we might as well let him alone." In some counties from which the State Society a few years ago drew its very best membership there is not even the semblance of an active organization. Today this society numbers about 25 per cent. less members than it did a few years ago. Why this apathy? What is the cause? Where shall the blame rest? This lethargy and inactivity has grown to such magnitude that it is high time the society should take cognizance of it. But in considering this matter there might be several causes worthy of consideration. We should bear in mind the fact that a few years ago, when the new plan of organization was adopted, there was, with a majority of the members, over-

enthusiasm and everything ran top-heavy, and that today the membership is, perhaps, only settling back to a normal, healthy, working condition.

Another cause might be assigned, namely, it has been apparent for several years that there is a spirit of unrest permeating the society. Whether there was or is just cause for such unrest is not mine to discuss at this time. However, the conditions are before us and must be met. Just what is the best thing to be done is for you, as a society, to say. The recommendations of my predecessor are in the hands of a competent committee and I believe that whatever they may recommend will be intended for the very best interests of the medical profession of the State as a whole. One thing is apparent: if the society is to live and thrive there must be some provision whereby reputable physicians, resident in counties where there is no active local organization, may become members of the State Society. This may be provided for by the special committee, but if not, I recommend that some action be taken looking to this end.

I would urge that, when the report of this committee is finally disposed of, it be done with an eye single to the best interests of the society and the profession in general, void of feeling or friction, and trust that whatever may be done may prove the redemption of the grand old Medical Society of the State of North Carolina.

Internal Secretions.*

By Dr. H. B. Weaver, Asheville, N. C.

There is perhaps no subject in the domain of medicine which today is creating a greater interest in research work among physiologists and pathologists than the one which treats of the functional relations of the ductless glands and the nature of their internal secretions.

The organs which are primarily involved in the production of the secretions are, accordingly, the adrenals, the thyroid glands, the pituitary body, the pancreas and spleen, and the leucocytes. Up to the present time, no text books of physiology have given any definite knowledge of the manner in which these glands elaborate their secretions, or the nature of their functional relations with each other.

Notwithstanding the fact of the shortcomings of physiology as taught today, anyone who is at all familiar with the literature of the present cannot help observing the rapid accumulation of knowledge concerning the ductless glands and their physiological and pathological relation in their

*Read before the Charlotte meeting of the North Carolina Medical Society, June 20-22, 1911.

co-ordinating functions; and in the language of Chittenden (1911) we "Cannot help being impressed with the significance of the result in their bearing on the chemical processes of the body." "Not only have we learned that certain of the ductless glands, which hitherto were considered of little importance for the welfare of the organism, manufacture specific, internal secretions, all powerful for the maintenance of health, but it has also been shown that these secretions owe their power to definite, chemical substances produced through the metabolic activity of the gland cells."

Since the early experience of Berkley and Gley, showing that the removal of any group of these glands causes the most profound disturbances in the general metabolism, have culminated in the later work of Starling and Zuelzer, who have demonstrated the correlation of these chemical substances in the production of hormones in the blood plasma; we make this postulate: that the adrenals, the thyroid gland, and the pituitary body, functionally united as they are, constitute an autonomic system (adrenothyroid) whose physico-chemical processes furnish the dynamic elements—hormones, necessary for the complete oxygenation of the tissues of the whole organism, whereby the two living processes—the building up of the tissues—anabolism, and the breaking down of the tissues as waste product—catabolism, are subserved, and thus by which only, life itself is sustained and health is preserved.

Of course this assertion must be supported by facts.

Chittenden says, "The ductless glands become then miniature laboratories, charged with the function of elaborating specific chemical products, which are needed for maintaining the normal rhythm of nutrition. Let these glands cease their functional activity, and the lack of their specific product entails disease and possible death." On the other hand, over activity of this system produces equally as disastrous results.

The Adrenals.—Without entering into anatomical details, it is established beyond question, by experiments, that the suprarenal glands manufacture an internal secretion which is emptied through the suprarenal veins into the blood of the inferior vena cava; that this substance contains a definite, chemical, specific substance; that the most characteristic feature of this adrenal principal is its great affinity for oxygen; that it has the power of raising blood pressure; that this secretion produces effects similar to those produced by intravenous injections of adrenal extracts, adrenalin, epinephrin, suprarenalin; that this secre-

tion, thoroughly mixing with the venous blood in its passage through the heart, stimulates through Thebesian foramina the muscular fibres of the same to tonic contraction, which propels the blood-plasma to the pulmonary alveoli, where it absorbs the oxygen of the air, whereby a new compound is formed, consisting of 94% of the oxygenized adrenal secretion, and 6% of hematin, in loose combination, which constitutes the oxidizing hormone which carries on the oxygenation of the body at large.

If these cardinal facts are true, it is evident that the adrenal hormone endows the blood with its oxygenizing properties, and being ubiquitous, is found in all the tissues supplied by the blood stream, and is the vital dynamic element in tissue metabolism; its variations from the normal depending on the over activity or inefficiency of the adrenals.

A. Baugal and E. Straus, (1911) report their careful observation on blood pressure-raising substances. Tests were made with the juices of many organs, but all proved negative in action except extracts of the hypophysis and the adrenals. The action of these was very powerful, raising the pressure from 40 to 60 mm. It is seen, therefore, that here is an insignificant gland endowed with the function of producing a chemical substance which has a most profound influence in the modification and control of nutrition and the vital processes of the body.

Its fundamental importance to the organism suggests itself from a pathological standpoint, when we behold the dreadful results from a complete extirpation of the glands; while on the other hand, the physiological importance asserts itself with equal force, from the manifest effects of therapeutic application of the adrenal extracts.

The Pituitary Body.—The pituitary body situated in the mid-brain, under the floor of the third ventricle, not larger than a small almond, instead of being a vestigial and useless organ, as once thought, is now found to be the most important organ in the body, being the nerve centre of all vital processes—governing, as it does, the body's immunizing functions, and controlling all vegetative or somatic functions of the body, the circulation, respiration, nutrition and locomotion. It is divided into two lobes, anterior and posterior.

The admirably histological study of the pituitaries of H. J. Berkley and Sajous, shows the anterior lobe to be a highly vascular organ full of blood; richly supplied in a net work of capillaries, supported by a sparse frame work of connective tissue, from which spring a vast number of nerve fibres which form a nerve-chain, passing

through the posterior lobe, its co-certe, into the tubercinrum and thence with the spinal cord down through the cervico thoracic sympathetic ganglia to the splanchnic nerves, then to the solar plexus, and thence to the adrenals.

The predominating feature of the anatomical relations between the adrenals and the anterior lobe is the connection with the sympathetic system, which proves that this lobe is the suprarenal centre. Indeed, we have abundant evidence of the control which this centre has over the adrenals adduced by the experiments of Vassale and Sacchi, who have shown that the removal of the pituitary gives rise to symptoms of suprarenal insufficiency.

Dreyer's demonstration that stimulation of the splanchnic nerve increases the epinephrin content in the suprarenal veins, has lately been confirmed by many observers. This would seem to prove my contention that the adrenal secretion is under the control of the sympathetic system and that the sympathetic nerves have their origin in the pituitary body.

Cannon and Cryle seem to think that the psychic influence is a potent factor in the morbid increase of adrenal and thyroid secretions. In fact, the latter has known this factor alone to cause death in serious cases of exophthalmic goitre, all of which proves in the light of our views that Sajous theory is correct in that the sympathetic centre originating as it does in the pituitary body where all physis impressions,—such as shock and fright—are received, is capable and does control the functional activity of both the adrenals and thyroid glands with which it is intimately connected by nerve fibres, thereby increasing or decreasing their activity according to the quality and quantity of the irritant acting on its centre. Weggars, of Ann Arbor, in April, 1911, states that the anterior pituitary elaborates a secretion that is necessary to life and normal metabolism and development.

The posterior or the neural lobe is the general centre of the organism from which arises all of the nervous energy transmitted by the bulbar centres. The primary function then of this organ is to transform chemical energy into mechanical energy. It is an aggregation of neurons, and, as Berkley suggests, its histological characters would mean that it is the seat of some nervous function of a high order,—a perfect maze of nervous elements, some of which have not so far been found elsewhere in the organism. While the anterior or glandular lobe has but one set of nerve roots of the sympathetic which governs the adrenals and muscular fibres of the arterioles, this lobe has centering in it the nuclei of all the

cranial nerves; it is the centre for the vasomotor system, in other words, it is the commune sensorium which receives the impression of sensation and motion, of shock, of trauma, and of the passions, such as grief, joy, fright. All of which leads us to the thyroid glands as a connecting link in the vital process.

Thyroids and Parathyroids.—Equally striking is the evidence pertaining to the functions of the thyroid apparatus.

Since 1895 when Bauman in his pioneer work on the thyroids discovered iodothyrene, in the colloid secretions of the thyroid glands, the functions of the thyroid apparatus have assumed a more commanding importance, especially from a pathological standpoint,—as in hyperthyroidism.

Some physiologists maintain that the functions of the thyroid is to sustain nutrition and promote the development of the body; others say their secretions destroy toxic substances in the blood, both of which are true; but we believe further that it can be satisfactorily shown that the thyroid secretion sustains the functional activity of the anterior pituitary body, and thereby the whole suprarenal system, through which, and by which, the whole vital process—metabolism—is sustained. While at the same time the parathyroids secrete a like substance rich in phosphorus, which jointly with the iodine contents is poured into the blood stream, which in conjunction with the oxygen-laden plasma forms the "opsonins and agglutinins," the great immunizing agents which sensitize all bacteria and render them fit for ingestion and digestion by the leucocytes. Hence we see that the thyroids and parathyroids supply a link with the vital mechanism on the one hand, and on the other through the leucocytes which circulate in the glands, (depositing their moiety of nucleo-iodine content) and other link with external agents, introduced through the alimentary canal.

Hence we learn that over-activity or inefficiency of these glands is followed sooner or later with disaster and death.

Viewing these facts from the standpoint of therapeutics and immunity, it asserts itself of more than ordinary importance, because it places in our hands means by which we can control the vital energies through the thyroid apparatus, and enhances the functional efficiency of the hormones in their co-ordinating processes through which the body protects itself against disease. Therefore we deduce the following propositions:

That the thyroid gland is but an auxiliary organ which secretes a fluid rich in iodine, which sustains the functional activity of the cerebral centres up to their normal stand-

ard, which stimulates the activity of the suprarenal glands, which in turn produces the adrenal hormone, which circulating with the thyroid hormone jointly, in the venous blood, is carried through the cardio-pulmonary circuit where new chemical compounds or hormones are found,—which are carried by the general blood stream to all the tissues including the nerve centres and the thyroid gland. Hence over-activity or inefficiency of any set of these glands establishes a vicious circle which, on the one hand, is manifested by the syndrome exophthalmic goitre, and on the other hand, the opposite, myxoedema and cretinism.

Beebe latterly remarks that he does not know positively upon what set of tissues the thyroid secretion acts, "But rather that most of the tissues in the body are in some way affected by this substance, perhaps in part through the medium of the nervous system." "We know," says he, "that it is connected in some way with the functions of oxidation in the body." Then he illustrates: "By the administration of thyroid to a cretin or a patient with myxoedema it is possible to increase the absorption of oxygen from twenty to seventy-five per cent."

This would seem to establish on a firm basis Professor Sajous' conclusions in his histological studies of the adreno-thyroid system, in which his following deductions seem warranted:

(1) "That the thyroid gland, the anterior pituitary body, and the adrenals are functionally interdependent, and constitute a system through which cardiac action, respiration, and general cellular oxidation are maintained."

(2) "The thyroid gland sustains the normal functional activity on the anterior pituitary body, while the latter in turn maintains the normal activity of the adrenals."

And hence the converse is true, that when the thyroid secretion is poured in excess into the blood stream, the pituitary is actively increased in function, and when the blood contains an insufficient amount of "thyrodase" the latter is passively decreased in functional activity.

If then the thyroid and parathyroid secretions sustain and control the pituitary bodies, what then stimulates the thyroid apparatus? This is the crux of the proposition. We answer that it is in all probability the function of the corpuscles of the blood to gather in store from the food stuff in the alimentary canal the molecular entities of iodine and phosphorus which uniting with the adrenal secretions in its oxidizing career, in the systemic circulation, pass to and through the thyroid glands which in

turn are activated, according to the power of the stimulus. Therefore, excessive thyroid secretion by over-stimulating the nerve centres of the suprarenal glands give rise to symptoms of over-activity of the adrenals, and vice versa, with insufficiency.

The Pancreas and Spleen.—We can give the pancreas only a cursory review. It has been shown by Bayliss and Starling that the hydrochloric acid of the gastric juice elaborates in the intestinal epithelia a hormone which, when absorbed by the leucocytes, is transmitted through the blood vessels of the pancreas and stimulates the latter, principally the islands of Langerhans, to secrete the pancreatic juice which in passing with the blood to the spleen is stored up as a hormone which has been demonstrated lately by Zuelzer to be a parastaltic hormone of very powerful action in relieving permanently, obstinate constipation. The specific function of the internal secretion of the pancreas is its correlation with some other hormone in the manufacture of an anti-hormone which antagonizes and neutralizes the excessive action of the adrenal hormone in the production of glycosuria,—even true diabetes.

Co-ordination of Internal Secretion.—In these brief statements we have emphasized only some of the specific actions of the definite chemical substances or hormones which constitute the basis of internal secretions. That the ductless glands are intimately related in the co-ordination of the body functions there can be little doubt. The word "Hormone" first coined by Starling comes from a Greek root and means "I incite, I stimulate," an easy designation for "a group of substances manufactured during the normal metabolic process of certain cells of the animal organism." Starling says their significance "lies in their dynamic influence on the living cell," and compares them therefore to alkaloids in their specific action. These hormones being secreted during the normal performance of the body functions and carried in the blood stream to all the tissues must stimulate certain cells to specific action. In the language of Zuelzer, "They can, therefore, be regarded as chemical 'reflexes' or chemical 'messengers,' which by the way of the blood, mediate specific functional relations between distant organs."

This idea significantly expresses the great new chemical, as distinguished from the nervous principle, which has been contributed to modern physiology, first by Starling, and practically amplified by Dorhn and Zuelzer. Starling was the first to controvert the old nervous theory of reflexes, upon which all hitherto physiological reasoning was based, and substituted

the chemical theory. He believes that a co-ordinated activity of all organs to a common purpose exists in all living beings, and that a correlation of the body functions can be brought about by chemical means. Zuelzer sums up the whole matter when he says, "In the light of our present knowledge we incline to the theory that the hormone producing organs, the vegetative nervous system and the organ or organs which control the chemical reflexes represent a uniform entity in which lesion of any one of the component parts can interfere with the aggregate effect."

Now that the functional relationship between the hormone producing organs has been shown through the intermediary of their chemical hormones, many clinical facts bearing on therapeutic remedies appear in a new light, and we can now hope that in the future we can with clarity and precision emancipate internal medicine from the mazes of impericism and place her as an exact science, where she rightly belongs, by the side of surgery, her sister science.

Microscopy in Medicine.*

By Robt. H. Lafferty, M. D., Charlotte, N. C.

The use of the microscope in medicine has become so important and widespread, the advancement of the science due to its use has been so apparent, its influence on medicine in its every phase and its value to the practitioner in every department has been of such magnitude and these facts are so universally recognized that to choose this subject seems almost an imposition upon your time. But sometimes even the most trite sayings or a discussion of a well known subject will stimulate thought that amounts to something great and so I would like to occupy a few moments of your time as a sort of introduction to the papers of the section on Pathology and Microscopy by a brief glance at some of the development due to the microscope.

No one, upon sane and careful thought, will deny that the majority of the great progressive steps in medicine may be attributed to the use of the microscope. Osler says "its use in clinical work widened greatly our power of diagnosis and we obtain thereby a much clearer conception of the actual progress of disease." Another writer says: "A complete revolution in medicine was begun in the latter half of the 19th century and the credit is due to Pasteur, Lister, Virchow, Morton and others, but Virchow himself maintained that Pasteur was greatest of them all," and every one knows what

the microscope meant to his work as well as to the work of others.

In the field of Etiology, Sanitation, Hygiene, Diagnosis and Treatment it is absolutely indispensable and of a value that cannot be overestimated.

The microscope made possible Virchow's research on the Cellular Pathology "which removed the seat of disease from the tissues, as taught by Bichat, to the individual elements, the cells." It made possible the brilliant work of Pasteur to whose memory grateful Paris erected a splendid monument of marble, but whose work is immortalized by the countless lives saved each day as a result of his work. It made possible the work of Lister, of Koch, of Ehrlich and of myriads of other masters in the various departments of science.

A comparative study of the etiology of disease as set forth in medical literature of 75 years ago with the etiology of today shows many interesting changes, most of which are traceable to work done by the microscope. For example, in one of the old books I read "it seems pretty certain that marsh miasma or effluvia rising from stagnant water or marshy ground when acted on by heat are most frequently the exciting cause of intermittent fever." The modern writer says: "It is due to a hyalin and intercorporeal parasite called plasmodium malaria." Without the microscope this would not have been known, and we would be sadly handicapped in the diagnosis of malaria.

These older books tell us that continued fevers were attributed to the same causes and in addition to a lowered vitality caused by work, worry or fatigue, and also to a miasma rising from the people who are sick and from dirt that has been found near the sick people. This even in its remoteness is wonderfully near to our present theory, but it remained for the bacteriologist to find that the mosquito carried the malarial parasite and that typhoid fever was due to a micro-organism which was carried from person to person.

Many other very interesting differences are noted in the various diseases. All diseases of inflammatory nature were attributed to injury and cold; no attempt was made to give the cause of mumps; diphtheria was said to be due to humidity of the atmosphere; syphilis to contact; tetanus by exposure; cancer was an ulceration due to excessive or prolonged injury.

It is a very significant fact that in these old text books the class of diseases known as "infectious" which now occupies such a large place in our modern books was entirely absent. At Pasteur's last birthday celebration Lister thus addressed him: "You

*Read before the Charlotte meeting of the North Carolina Medical Society, June 20-22, 1911.

have raised the veil which for centuries had covered infectious diseases; you have discovered and demonstrated their microbic nature," which remark shows where this great man placed the credit.

It is also interesting to note how during the last fifty years the number of infectious diseases in each successive edition has increased by diseases of unknown cause being gradually shifted to those of infectious nature and this change was due to the discovery of the cause by the microscopist. Then, having found the cause, we know from many instances how the diagnosis, treatment and prevention have rapidly followed until, in not a few cases, diseases have been practically stamped out or the death rate brought to a minimum.

And what shall we say of the progress in surgery? We shudder when we think of the absence of surgical cleanliness in the old operations. We hear with horror of the numberless infected wounds; we are astonished at the lack of cleanliness in the army surgery of our remote wars and even more at the success attending the operations. But we see the surgeons of today doing a laparotomy, craniotomy or other major operation with a degree of safety far exceeding that with which the older surgeons did the minor or most trivial operation. We see the surgeon stop during an operation for tumor while the pathologist makes the examination of the section to ascertain with what class of tumor the operator has to deal, so that he may know how extensive his operation must be. What but the microscope could have brought about this revolution? Lister acknowledged that his great work could not have been had not Pasteur preceded him with his work in bacteriology. Or we ask, how could the pathologist determine the nature of tumors without this valuable instrument?

In obstetrics the bare mention of the discovery of the cause of puerperal infection, ophthalmia neonatorum, and tetanus and the indicated means of prevention and treatment is sufficient to score another triumph for bacteriology. The countless lives of mothers and children that have been saved by the prevention of these troubles pay a well merited tribute to the microscope.

When we turn to the field of hygiene and sanitation we find most wonderful results. Here we see the microscopist has determined the causes of disease, their sources and means for their prevention. He instructs the sanitarian to destroy the mosquito or keep him away from man; to destroy the fly or keep him away from infected soil and from man and the food of man; to isolate contagious diseases; to enforce care in handling and disinfecting excrements from

patients with communicable diseases; with the result that thousands of lives are saved, much suffering avoided, and certain diseases are gradually being stamped out.

In the work of diagnosis, however, the microscope becomes the practitioner's most valuable instrument. How could he do without it in the diagnosis of intestinal parasites, of malaria, of tuberculosis, of typhoid fever, to say nothing of tumors, syphilis and many other diseases diagnosed either directly by its use, or using it to eliminate other diseases. There is no more spectacular sight in microscopy than to see the pathologist as he mounts and stains a small section of the brain of the dog supposed to be rabid, and demonstrates there those bodies of Negri which indicate that treatment is needed by the patient bitten by the dog. How many lives saved by this simple process could not be estimated.

In your blood counts, examinations of blood smears, of urinary sediments, of gastric contents and of various other secretions, excretions, and fluids of the body, the microscope is such a valuable asset to the diagnostician that no man can afford to disregard it.

Then finally in the field of treatment aside from the fact that it has afforded the means of knowing what to treat, there are many of our most valuable means of treatment that are due absolutely to the microscope. Had Ehrlich been deprived of it he would never have hit upon that wonderful chain of reasoning by which he found his "606," nor would he have had means of demonstrating the presence and destruction of the *spirochaeta pallida*.

Without the microscope the diphtheria bacillus would not have been discovered and its anti-toxin made and the lives of countless children spared. Without it the typhoid vaccine would not have been brought into use, untold sickness, suffering and death spared our soldiers, and those who have resorted to its use.

And finally without it the entire field of serum-therapy and diagnosis would never have been thrown open to the doctor, and much that has already been accomplished and triumphs that may still be attained would not have been. The treatment of bacterial diseases by specific inoculation has established a system of therapeutics which could have had its origin nowhere else save in the microscope.

So we have seen that as a means of developing and making accurately scientific the study of medicine, the microscope has filled a place all its own and this work will continue. But of especial interest to us is its value to every one of us every day and the doctor who does not possess this instru-

ment and cannot use it, or is not within the reach of some one who can, is indeed to be commiserated, and we rejoice that today our schools are emphasizing its use, our doctors employing its methods or calling the specialist who does this work for them, and finally that even those busy doctors who have neither the time nor equipment to do this work need not leave it undone, for the State has established a laboratory in which this work is attended to by specialists.

The Relation of the Specialist and the General Practitioner.*

By Dr. S. A. Stevens, Essayist, Monroe, N. C.

Progress in industrial and economic lines has led to the division of labor. Our industrial system has become so complex that work that was formerly done by one man is now performed by ten. Underlying this is the basic principle of concentration both of the mental and physical faculties. This tendency to division of labor has entered the field of medicine, and has led to the development of the specialist.

It is my purpose in this paper to consider the effect of their tendency in modern medicine.

The various specialists, concentrating their energy, thought, and experience along certain lines, have by their patient, untiring efforts, contributed much to the sum-total of medical knowledge. I think there is no doubt that the development of the specialties have led to advancement along their various lines and has decreased human suffering. It is true that many mistakes have been made. Many needless and perhaps harmful operations have been performed; many theories have been advanced and experiments performed which promised brilliant results, only to prove will o' the wisp when put to actual tests. Many false paths have been blazed only to be abandoned. Many a tonsil and many an appendix has been removed without any benefit save to the pocket of the operation. However, human progress along all lines has been marked by mistakes. Out of the many theories advanced and the rubbish of medical thought, some valuable truth is discovered which is of lasting benefit to the medical profession. Even if the pocket of the patient is lighter and that of the specialist heavier in separating the true from the false, the end perhaps justifies the means. I do not mean to cast reflections on the honesty and sincerity of specialists as a class. There are doubtless specialists whose only ambition is to make all they can and

give as little as possible in return. But when you find one of this type, you will find that he is by no means lonesome but has plenty of congenial company among the general practitioners. Where the specialist robs the dear people in lump sums, his counterpart among the general practitioners does the same by the more gradual and less apparent method of making unnecessary visits. In one case the sufferers are aware of the skinning while the operation is in progress; in the other it dawns on them more gradually but none the less surely. I am glad to believe that there are not many of these licensed, unbranded charlatans in our ranks and it is to be hoped that they will be gradually weeded out.

There is a tendency in human nature to find, or to think we find, that for which we are looking. This tendency gives rise to one frequent source of error on the part of the specialist, unless he be endowed with good judgment or is what we term well balanced. The fact that the mind is concentrated on the diseases incident to certain organs, naturally leads the specialist to attach undue importance to the derangement of these organs. In other words the very nature of his work has a tendency to "narrow" the specialist.

This *narrowing* process has extended to the ranks of the general practitioner. The modern physician, because of his reliance on the specialist, fails to inform himself as well as he should. He fails to observe symptoms as carefully as he should and to study his patient thoroughly. The findings of the microscopist are of value in clearing up doubtful cases and in confirming a diagnosis, but to rely on this alone or to any great extent will, to say the least, cause oftentimes dangerous or fatal delay. Especially is this true since many of the physicians in the country and smaller towns have not convenient access to microscopists. Nor have they the time to become sufficiently skillful in the use of the microscope to accomplish much, especially along pathological lines. The modern physician is hardly the equal of his predecessor of 25 or 50 years ago when he has only his patient before him, and can't avail himself of the services of the various specialists. He has not cultivated his powers of observation so well nor studied symptoms so closely. This failure of the general practitioner to inform himself properly along the lines of the diseases of organs treated by specialists begins in the medical student and continues after he begins practicing. To illustrate, we will take diseases of the eye, ear, nose, and throat. Just enough study is reluctantly devoted to this branch by the average medical student to enable him to pass his ex-

*Read before the Charlotte meeting of the North Carolina Medical Society, June 20-22, 1911.

amination in college and before the State boards, and to accomplish this, he relies more on what is known as cramming than upon a thorough study of the subject. In other words, to use a homely phrase, he gives it a lick and a promise and never fulfills the promise. It too often happens that the ignorance of the general practitioner is the cause of fatal delay in sending his patient to the proper specialist. The eyespecialist frequently finds an iris permanently adherent because the physician failed to diagnose the trouble and make a few timely applications of atropine.

The surgeon is frequently confronted with an almost hopeless surgical condition simply because of the ignorance of the physician or his lack of back bone in insisting on calling in a surgeon contrary to the wishes of his patrons. It is the duty of the physician to acquire sufficient knowledge of the more common and dangerous diseases treated by the specialist to enable him to either handle the case himself or to call in the specialist before it is too late for him to remedy the condition. Again, this ignorance frequently leads the general man to refer many cases to the specialist that he could just as well treat himself. By so doing he subjects his patrons to a needless expense, bothers the specialist with a lot of frivolous cases with which he probably has neither the time nor inclination to concern himself and loses fees that are justly his.

As to the relations between the specialist and general medical man, it goes without saying that they should be friendly and governed by the same ethical rules as obtain between physicians generally. There should be no *big I* and *little you* on the part of the specialist, nor should the physician saddle the specialist with all the failures that will sometimes necessarily follow treatment. If the result of treatment by a specialist is not what the physician has led his patient to expect, the temptation is great to attribute this to lack of skill of the specialist, in order to keep his hold on his patient's confidence. In advising a consultation with a specialist, the physician should not do too much prophesying as to the outcome. In fact this rule is a good one to follow or rather not to follow in our own cases. Prognosis is nearly always involved in doubt. Especially is it very doubtful as to absolute cure in many cases. Nor is it necessary to be prophets of evil. We can nearly always promise a certain measure of relief from a specialist, if no more, or we can at least verify or make certain a doubtful diagnosis and this will often satisfy our patients. If the true condition is explained to them—what the trouble is and what may be expected from treatment they are better

satisfied, even if but little amelioration of their trouble results.

Again, the physician should not send a patient to a specialist with a cut and dried treatment already mapped out, unless the indications for such treatment are absolutely of general acceptance. If the patient is expecting a certain line of treatment, he will naturally be disappointed, either with his physician or with the specialist, unless a lot of skillful explaining is done. I am trying to convey the idea that the specialist should not be hampered in following his own judgment as to diagnosis and treatment by erroneous ideas and mistaken impressions implanted in the mind of the patient by the physician.

The very fact that the specialist is a specialist is presumptive evidence that his opinion of a case and advice as to treatment is more apt to be correct and should be given greater weight than that of the physician.

Perhaps the best plan is simply to tell the patient that the case is one that requires the services of a specialist. Give the specialist the history of the case and make known any idiosyncrasies of the patient and give any information that the specialist may ask you for, but be careful not to volunteer too much, either to patient or specialist, lest you show how woefully ignorant you are. Don't send a patient to a surgeon with the idea in his mind that he must be operated on at once. The surgeon may think it wise to wait a while or possibly not to operate at all and in this case he must either disregard his own judgment or put the physician in a bad light, a thing which no specialist wishes to do when a case is referred to him. It is best to tell them that the case is one for the surgeon to pass judgment on; tell them to go to a hospital and call a surgeon. Try to disabuse the mind of the patient of the idea that a hospital is a butcher shop or slaughter pen—an idea quite prevalent in some localities. Tell them it is a place where they can get the proper medical treatment and nursing, and where they can be operated on in case it becomes a necessity.

A few words as to fees. The expenses of preparing to be a specialist are burdensome. In the first place, the specialist takes or should take the general medical course.

The parts of the human body are so closely related, the effect of the derangement of one organ on the others is so great that he who is conversant only with the diseases of one or two organs is not properly fitted to treat them. Hence a thorough foundation in general medicine and a few years general practice are of almost absolute importance in fitting one to become a thorough specialist. Add to this the cost of special prepar-

ation and the necessarily heavy running expenses in the shape of special instruments, etc., and you have a basis for the larger fees demanded by the specialist. In some sections of the country, especially in the North and West and in the larger cities generally, there has arisen what is known as the commission system—that is to say, the specialist collects large fees and gives the practitioner a certain part of them in return for sending patients. It is a case of you tickle me and I'll tickle you. I speak of this practice only to condemn it. By the time the general practitioner charges a legitimate fee for his services and the specialist adds his on that, the pocket of the average patient is sufficiently depleted. A double bleeding in addition to this is neither just nor warranted by ethical practice. The physician should make his services valuable enough to the patient to charge a reasonable fee. If he takes the patient to the specialist, he should charge for the time he is absent from his work and collect it himself, and not resort to the subterfuge of collecting it without the patient's knowledge.

In this matter, as in everything else, each tub should stand on its own bottom.

The Relation of the Doctor to Public Health as Regards Tuberculosis.*

By Dr. Thomas M. Jordan, Raleigh, N. C.

Mr. President and Fellow Doctors:

Whether our distinguished president, who while he sits his place before you, displaying his youthful face and raven locks, would like for me to say so or not, I must tell you that both of us have been attending upon these meetings for thirty-one years; that in both the 19th and 20th centuries we have been here, and speaking for myself, I wish to say that in all that time I have never felt before that I knew anything that you did not know that was important enough to ask you to listen to me. But now I believe in my heart, yea, I feel it in my soul, that I have a message so important that I not only feel that I should tell it to you, but I would proclaim it from the housetops of our people, until I might arouse them in behalf of public health, that they might awake and betake themselves to the warfare that they must wage, or they and their loved ones will be stolen away by an enemy who stalks among them both night and day, and who never sleeps, and who because his deeds are evil prefers darkness to light. Gentlemen, the title of my paper is a little different from

that published in the programme and reads as follows:

A Study of the Mortuary Statistics of North Carolina for the Year 1910; and Some Remarks as to the Relation of the Doctor to Public Health as Regards Tuberculosis.

It is pardonable pride if I claim for North Carolina doctors that they are in the van of progress, moral and intellectual, as well as all elements entering into a high life in keeping with a professional calling. Upon such progress true superiority and leadership are dependent. Some physicians believe that we have attained them; others, less optimistic and perhaps wiser, believe that we are still endeavoring to obtain them. The former opinion might be termed the assumption of the majority; the latter the ambition of the minority.

The initiation and direction of any movement, therefore, making for greater achievements by the profession, as well as for the judicious development and extension of those already inaugurated, will devolve upon the minority. To you, therefore, representing this invaluable minority, I would present some thoughts coming to my mind after a study of the mortuary statistics of our State for the year 1910 upon what I think is the very greatest problem before, not only our profession, but the whole world if you will, but directing your attention to what is nearest to us, our duty in our own State in regard to the greatest enemy of mankind; an enemy causing the death of more of our people than all other communicable diseases combined;

An enemy that left 845 fatherless homes in North Carolina in a year;

An enemy that left 1205 motherless homes in North Carolina in a year;

An enemy that left 355 homes without parents in North Carolina in a year;

An enemy that made 1420 orphans in North Carolina in a year.

The greatest question for our consideration is, shall we submit to or conquer this arch enemy of our race? And considering this great question, the relation of the physician to public health, as regards tuberculosis, presents itself for thought.

From the beginning the relation of the doctor to public health in general has been an established fact, for to none other than to the medical profession is due the credit for all the present laws we have bearing upon public health.

The status of the doctor now toward tuberculosis is not what it formerly was, for the doctor has had another thought coming to him as to the nature of the disease and consequently altering his relations to public health in regard to it; yet there has been no alteration in our public health

*Read before the Charlotte meeting of the North Carolina Medical Society, June 20-22, 1911.

laws in regard to tuberculosis. It is still within the memory of man when the teaching as to tuberculosis was that it was an inherited and not a communicable disease. Now it has been more certainly proven that tuberculosis is communicable, than has been admitted that it is not inherited; but there has been no enactment of law in regard to it, tending to prevent its spread as in scarlet fever, small pox and diphtheria, except the one instance of requiring fumigation of premises after death or removal, and by some municipalities requiring a report to the authorities of its presence in the community. It is not claimed that tuberculosis is so viciously contagious as are the diseases mentioned, or that the same quarantine that is applicable in these would or could be applied successfully in tuberculosis; nevertheless there can be no defense of the "stand pat" attitude in regard to the latter, for as a destroyer of human life and happiness, placing tuberculosis against the whole list of contagious diseases, it leads so far that there is complete forgetfulness as to others.

In 1910 we lost in North Carolina by death from whooping cough, 230; from measles, 200; from diphtheria, 265; from small pox, 5; from typhoid fever, 1110; from tuberculosis, 4690; from all preventable diseases, 6500.

Estimating the property value of a human life at even two thousand dollars our State is losing annually in dollars and cents from preventable diseases thirteen million dollars, but nine million, three hundred and eighty thousand dollars of that amount will be due to tuberculosis. It is over twenty times as destructive to life as whooping cough and measles, nearly twenty times as destructive as diphtheria, each one public health lays its preventive hand upon. Now, when I tell you that tuberculosis is nine hundred and forty times as destructive to life as small pox upon which so much stress has been laid by our profession and the laity, will you not ask yourselves the question, "Why am I idle as to some measure to prevent the spread of this terrible malady?"

And again I ask why the exception, or why there has been no public health enactment treating tuberculosis as other diseases that we know are not easier prevented than tuberculosis? Is the profession to blame? If so, is it because we are still treading the same pathway we made in regard to public health when we regarded tuberculosis as an inherited disease only, and incurable, and when, because it was so regarded, it was considered cruel to inflict upon, as we thought then, the already doomed, the information that offered no hope, whatever, and left to him only the regret that he had

not been born of parents whose blood did not float tubercle bacilli?

Perish the thought that, for any reason of self interests, either of the physician or his patron, the relation of the profession to public health as regards tuberculosis can be explained; yet it is no great stretch of imagination to picture such a reason for the relation.

The admitted fact now by the profession that tuberculosis can be cured under proper surroundings and circumstances, if taken in time, and the widely advertised sanatoriums, and cock-sure cure specialists, that are calculated to take patronage from the regular physician, who knows full well that he can do his patient quite as much good as he can receive elsewhere, may make the physician slow to inform his patron of his real condition, feeling sure that if he should do so, more than likely he not only would lose patronage, but most surely reputation with his former patron and his friends, because what we hear on the return of such cases if not cured is that the regular family physician did not send the patient in time, or kept him at home too long. Bearing upon this phase of the case, I may be pardoned for reciting a couple of my own experiences. Some years ago, I was requested by the proprietors of a large firm serving the public to examine and report upon an employee, as to whether he was tuberculous. The examination confirmed suspicion. It devolved upon me to inform him of the findings. I advised with him as to the best course to pursue, giving any hope of recovery. Of course, he lost his job with the firm. I also lost his patronage, and he took the aconite electric cure with a specialist just come to town, but his ticket read death from tuberculosis on the health records a few months later. A year or so ago a gentleman whom I had been for some time the family physician of developed tuberculosis. His occupation brought him in daily contact with the traveling public. I felt called upon to break the sad news to him, and advised him as to his relation to the public and his family, and explained to him the means that promised most for his recovery. Instead of following my advice, he went visiting, to return and place himself in the hands of a consumptive specialist, who, I have since been told, said to him that as soon as he could cure him of the fever his doctor had allowed him to walk about with so long, all would be well with him. He has been relieved of the fever, and I trust it is well with him, if not the "well" he was lead to expect. Whether the conditions or facts mentioned are the causes for the relation of the physician to public health as regards tuberculosis or not, the fact must

be admitted that either for those or for some other, the profession by a large majority is maintaining the speak easy attitude in regard to tuberculosis it maintained when we thought differently about it. We can not claim that we don't know now. We can know if we will. The State has provided free examination of all suspected sputum and the "I am not certain" argument can not justify the profession in failure to announce the presence of a disease in the community dangerous to public health.

We either have convictions upon the subject or we don't; having them, we should without hesitation act, regardless, or we should not profess to be our brother's keeper, when we are not. If the phagocytes of our professional life and brotherhood are not strong enough to protect us against the siren songs of the make-believe, who claims to cure them by their quirks other than rational treatment, let us inject the lymph of professional restoration by enlisting in a common cause in behalf of public health, and deserve credit for what we have done by doing greater things in behalf of public health in regard to tuberculosis. Whether we lead the van or not, the law will be enacted and we should take our proper place at the head of the movement. Let the profession cut the pattern for the law, for any law to be successful in execution will depend upon the profession. If the profession were required to make public announcement of tuberculosis, as in other contagious and infectious diseases, in my opinion a great step forward would be taken toward the education of the public as to the real nature of the disease and its management and treatment, and once this is known, the advice of one reputable physician will be worth as much as another; there are no obscure methods in its management or treatment, the diagnosis being certain. If I read the signs of the times correctly, our profession has no time to lose in taking a step forward now in regard to this particular disease, for the layman is interested in this matter as never before; and at no distant day there will be legislation along this line, and by right I think the medical profession owes it to itself, to its profession and former attitude toward public health legislation, to be in the front rank instead of the rear in such a movement and claim the credit for leading the fight. The reason we have no such law now is because the profession has been derelict to duty in not demanding the passage of same. While I do not feel myself competent to provide the proper machinery for such a humane undertaking, it occurs to me that physicians should be required to make public announcement by placard or

some other form of notice the location of every case of consumption.

To ever successfully combat tuberculosis, some similar notoriety and management as is used in small pox and other contagious diseases must be adopted for the migratory consumptives. If a case of small pox should come to your town the entire community would stand as one man for its isolation; put him in the pest house; burn his belongings. The community will stand for anything to handle small pox, even for taxation to support quarantine, which if it does anything helps to spread the disease by offering a false protection to the individual and preventing his vaccination. We should regard the incoming consumptive with a great deal more fear, and notice of his coming should be given by health authorities from whence he came, as is done in small pox. When a State law requiring this is upon our statute books with proper penalty, physicians will no longer hesitate to report the cases coming before them. The same will act well upon the patient in that he will know that one doctor will report him as quickly as another, and that there will be no escape from the publicity. There will be two classes of patients to deal with, the indigent and the self-sustaining patient. Both must be handled to succeed in the eradication of the disease. The man that can not provide for himself must be provided for by the State, and to do so, a home, hospital or sanitarium must be prepared and the indigent required to go. The self-sustaining patient must be properly instructed as to how he shall conduct himself to prevent the spread of the disease, and should he prove rebellious or neglectful of or to the instruction given him for the prevention of the spread of the disease, then upon conviction, through due process of law, as a punishment for his offense, he should be subjected to the same restraint in the same home with the indigent. But the question arises: is the State able to make such provision? It is paying a greater tax by loss from this disease than it would take, in my opinion, to provide for it as proposed. The annual loss to the State now by death, placing the value of a human life at even one thousand dollars each, would loose the State in round numbers nearly five million dollars annually. And even at so low an estimate of a human life as \$1,000 each, the loss from one disease alone to our State is a greater tax than that levied for municipal, county and State purposes combined, annually. Add to this the time lost by other members of the family in nursing and caring for the sick, and as a business proposition that our State take steps to prevent, it is unanswerable, not to mention the State's duty to its citizenship.

If the value of a State is dependent upon its citizenship, and who would be so ignorant as to deny this proposition, then any amount expended for a better, healthier, happier citizenship will be worth while. Whatever part our profession shall act in bringing to pass such most to be desired conditions, will redound to its everlasting glory and praise.

532 N. Wilmington St.

The Importance of Mild Cases of Hookworm Disease.*

By Boney Wells Page, M. D., Raleigh, N. C.

Though the medical profession and the general public recognize and appreciate the importance of severe cases of hookworm disease, they remain careless as to the great importance of mild cases. Not all persons affected with this disease have a long chain of objective symptoms such as anaemia, dry hair, dilated pupils, edema, clerical pulsations, etc. All these prominent signs may be absent in a given case and still there may be mental and physical degeneracy resulting from the infection.

After inspecting over 300 schools last session and following up the inspection in many instances with microscopic examination, I found that more than half the cases diagnosed microscopically presented no marked signs on first inspection; but on re-visiting a number of these schools and the parents of many of these children I found various subjective symptoms.

A comparison of sizes of several of the mild type of a given age with a corresponding number of uninfected children of the same age showed the former were undersized. Lack of development, even in the absence of other symptoms, should lead one to suspect hookworm disease.

In most cases intestinal and gastric signs are not much noted and they are brought out only by close questioning. The chief digestive symptoms are fugitive pains in the epigastrium, heartburn, eructations, and meteorism. These vary greatly and are by no means constant. However, if we fail to correct these minor conditions a distinct neurosis may be developed. Atony may result from the constant irritation of the small intestine by the blood sucking parasites.

When we remember the complex innervation of the stomach and intestine, its far-reaching plexus whose cerebral and sympathetic fibers have many anastomoses with such intimate connections, of both stimulating and inhibitory impulses, we can better

understand how a local point of irritation in the small intestine will cause headaches, insomnia, a nervous temperament, neurasthenia.

The nervous system is the most severely affected. There is a reduced power of cerebration, the memory is impaired, and the ambition is weakened. After examining thirty-three young men in a certain high school and finding eleven infected, the principal informed me that he had suspected only one of them having the disease, but only two of the eleven had been able to keep up with their classes.

It has been observed that on the microscopic examination of several large graded schools the backward sections of the various grades run a higher percentage of infection than the more advanced sections of those grades. This would lead us to believe that the mild case as well as the advanced one retards mental development.

The greater number of the mild cases seen after treatment had improved in weight, feeling, appearance and haemoglobin after getting rid of what would be considered an insignificant infection.

But aside from the importance of the mild case, relative to physical and mental development, it has yet another phase—its source of danger to the host and to others.

There were probably none but mild cases when the disease first began to attack the American people, but because of a lack of sanitary conveniences these patients re-infected themselves and ultimately the advanced case developed. Persons mildly infected are not only a source of danger to themselves, but they are dangerous to the community in which they live. Through soil pollution one mild case may cause the disease to spread to a hundred different homes in a very few years. From one locality to another the disease has made steady progress until every section of our State is now infected.

Some communities seem to have mild cases only. It is incumbent upon every citizen to work energetically in such localities before it gains too strong a hold, and while it can be easily eradicated. All children should be closely examined even if most of the objective symptoms are not discovered at first inspection. In all health work, it is the duty of every community, county or State to protect the lives of those who compose it. While the infection is light, stamp it out.

*Read before the Charlotte meeting of the North Carolina Medical Society, June 20-22, 1911.

Prolapsus Uteri.*

By C. S. Lawrence, M. D., Winston-Salem, N. C.

In presenting this short paper on the subject of prolapsus uteri I wish to state at the outset that I claim no originality for what I shall have to say.

Prolapse is a time honored term for downward displacement of the uterus and includes a number of anomalous positions of the uterus, vagina and adjacent organs that are etiologically quite different and represent entirely distinct clinical pictures. The physician must, therefore, never content himself with a diagnosis of "Prolapse," he must include in his diagnosis the changes present in all the organs that take part in the prolapse. For this purpose systematic examination of the vulva with floor of the perineum, the pelvis, vagina, uterus, bladder and rectum is necessary.

The various forms of complete prolapse represent the final stage of gradually developing changes and are usually very much alike. Most cases of prolapse, however, that come under the physicians' observation are incomplete or still in the process of development and differ in certain important points until they finally reach the terminal stage which is practically the same in all forms. As, however, the process may become arrested in any stage, it is not proper to base a diagnosis exclusively on the terminal condition; the transitional stage must also be described as separate and distinct clinical pictures, bearing in mind, however, that the transition to the final stage is often quite rapid.

Thus one woman may suffer from moderate descent of the vagina and continue in the same condition until the end of her life, while in another patient a moderate degree of descent of the vagina (partial prolapse) may within a few months become converted into complete prolapse of the vagina and uterus.

For this reason I have sub divided the various clinical pictures which are included under the generic term "Prolapse."

The vagina takes part in all varieties of prolapse and the following conditions may be distinguished:

1. Descent of both vaginal walls.
2. Prolapse of the anterior vaginal wall.
3. Prolapse of the posterior vaginal wall.
4. In prolapse of the entire vagina.
5. Inversion of the vagina.

(a) In most cases both vaginal walls protrude into the introitus as the woman bears down the anterior usually more than the posterior. Circular descent is rare. The relaxed posterior columna rugarum is

very often obliquely placed because of unilateral vaginal lacerations.

(b) Prolapse of the anterior vaginal wall causes a tumor of variable size in front of the vulva consisting of the prolapsed anterior vaginal wall. The lateral portions of the vagina are drawn down somewhat by the tumor; the posterior vaginal wall in complicated cases, so far as its lower portion is concerned, remains completely in situ, while the posterior vaginal vault is inverted by the uterus, which also descends. A cystocele is always present and varies in size with the degree of vaginal prolapse.

(c) Prolapse of the posterior vaginal wall is one of the rare forms, it is observed in cases of ascites or it may be forced down by coils of intestines in the cul-de-sac of Douglas, in rare cases of congenital abnormal depth of Douglas space may cause prolapse of the posterior vaginal wall, the anterior wall remaining in situ.

(d) In prolapse of the entire vagina the latter is entirely in front of the vulva.

(e) Inversion of the vagina is the result of primary descent of the uterus and begins at the vaginal vault, and as the uterus descends carries with it the vaginal vault while the lower portion remains in situ.

As the parts that are prolapsed are no longer protected by the mucous membrane of the vagina secondary changes take place, the mucous membrane becomes dry and horny like skin, parts become fissured, crusts form and sometimes there is pigmentation, ulceration, and as a result of the constriction by the introitus there is edema and redundancy.

After the condition of the vagina has been described the extent to which the uterus is prolapsed is investigated.

We distinguish two different conditions.

1st. Primary descent and prolapse of the uterus.

This occurs in conditions of relaxation of the peritoneum and its ligaments and of the pelvic connective tissue. It is therefore regularly associated with retroversion which occurs from the same cause. The vaginal portion is in the pelvic axis below the interspinal line. The upper portion of the vagina is inverted while the introitus and the lower segment may be normal, in most cases, however, the latter are also relaxed and displaced downward. In more severe grades of primary descent the vaginal portion enters the introitus, and in a fully developed total prolapse the uterus, covered with the completely inverted vagina, lies in front of the vagina usually in retroversionflexion, rarely in antelexion. In a small number of cases the uterine prolapse is associated only with prolapse of the posterior vaginal wall, while the anterior wall merely pre-

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sents a slight degree of inversion from above.

2nd. Secondary descent of the uterus with elongation of the cervix.

This condition also is ushered in by a slight descent of the uterus with retroversion due to relaxation of the peritoneal ligaments and pelvic connective tissue which usually develops simultaneously with relaxation of the vaginal walls. As the relaxation continues, however, the uterus is drawn down by the prolapsed anterior vaginal wall aided by a cystocele, which is connected over a wide extent with the anterior wall of the vagina and cervix. The uterus offers no resistance to the pull thus extended until the vaginal portion approximately reaches the introitus. Further displacement is temporarily prevented by the peritoneal ligaments and pelvic connective tissue and instead the cervix is slowly distended by the continued pull of the anterior vaginal wall and the cystocele, thus elongation of the cervix is produced.

Treatment.

Case I.—Mrs. E. C.; white; age 32; para VI; native of North Carolina; occupation, housewife.

History.—Complains of pain in back and side low down, sensation of bearing down, leucorrhoea, painful defecation and frequent micturition.

Examination Pelvic.—Retroversion and descent of uterus cervix at introitus and elongated cervix lacerated and everted—2nd degree location of perineum, slight rectocele.

Treatment, Curettage.—Amputation of cervix, perineorrhaphy repair of levatorani muscle. Laparotomy, shortening of uterosacral and round ligaments.

Patient made good recovery and has remained well since December 14, 1909.

Case II.—Mrs. G.; white, age 32; para IV; native of North Carolina; occupation, domestic.

History.—Married seven years, worked hard. Last confinement four months ago which left her very weak. She suffered with a severe diarrhoea and was worried with her sick baby which died at age of two weeks. A few days later she got out of bed and walked about the room and became alarmed when she noticed the womb had come out of the vagina. This condition of affairs kept up for four months when she was referred to me for operation which was done July 29, 1910.

Examination Pelvic.—Complete laceration of the perineum. Cervix at introitus vagina and with valsea could be readily brought out of the vagina. Bladder and urethra in very good condition save a slight cystocele.

Treatment, Curettage.—Perineorrhaphy with repair of levator ani muscles. Laparotomy. Shortening of the utero-sacral and round ligaments. Ventro suspension.

Patient made good recovery and has remained well, doing her domestic work.

In treatment of these cases the levator ani muscles which had been separated in childbirth were in each case sought out and approximated, making a good substantial pelvic floor, the utero-sacral ligaments were shortened after the method of Bovee, bringing the cervix well back into the hollow of the sacrum. The round ligaments were shortened by the Baldy method which throws the fundus uteri well forward, and the ventro suspension after Kelly.

To me this seems to be the ideal treatment in childbearing women. For women past the menopause I would suggest (besides taking in the slack in all the uterine supports) abdominal fixation.

In cases with elongated cervix the latter must be amputated in addition to above treatment.

In those cases of marked enlargement of the body of the uterus a V-shaped section may be removed from the corpus uteri and vaginal fixation performed after the method of Schaudé and Wertheim.

If possible, in all cases of childbearing women I think the uterus should be saved as well as in women past the menopause, but there are a certain class of cases in old women of long standing with marked redundancy of the cervix and vaginal walls, with ulceration which require hysterectomy. Where this procedure is indicated the method of Dr. Thos. S. Cullen, described in *Surgery, Gynecology and Obstetrics*, March, 1910, seems to be the proper one.

Possibilities of Preventive Medicine.*

By W. J. McAnally, M. D., High Point, N. C.

This is one of the foremost propositions of the age. And it is fitting and well that it should be. With the astounding facts relative to the subject before us, it is almost impossible for one to keep quiet about the matter. Revolutions have been born of conditions far less aggravating than are the present conditions relative to disease. Over one and a half millions of our citizens are sick all the time of preventable diseases and over a half million dying every year needlessly of these same causes. Where would you find greater justifications for resolution and war? Our land is being pillaged and our people slain. To Arms my Countrymen! To Arms! and at the

*Read before the Charlotte meeting of the North Carolina Medical Society, June 20-22, 1911.

enemy now! Lives there a soul so sordid and dead that a widow's tears and her orphans' wails could not move it? On such a one we do not call. But into the ears of strong men, live fighting men, would we pour the story of our countries' afflictions. There are very few, outside the medical profession, who know and appreciate these stupendous facts. It will take repeated, persistent, and well directed efforts to awake the citizenship of our State to the full importance of this matter. Though our work, as modern medical men, is almost wholly confined to the treatment of diseases, we are bound to take time to interest the public in the vast work of disease prevention. We, as practicing physicians, can never carry to completion the instruction of the public while going about our daily work. We can help to mould public opinion, and eventually, happily that event is not far in the future, this public opinion will permit and even demand the legislation which will result in the training of the masses and enforce the execution of wise measures directed along the line of disease prevention and the conservation of human life. But I want to state emphatically that we, as physicians and surgeons, can never do the complete work as it must be done along this line. There must be a regular standing army in the State, paid by the State, counties, and municipalities. This health army must have no other duty and do no other work besides prevent disease and conserve human life by every means known to this modern and most glorious of all earthly armies. Glorious in its achievements and in the patriotism and fighting qualities of its personell. It will make no widows and orphan no children, demand no pensions and produce no treasury deficits. Its splendid work will be the prevention of disease and turning the death angel from our homes. With 600,000 deaths from preventable diseases in the United States every year, our proportion in North Carolina would be in excess of 10,000. Accepting Prof. Irving Fisher's conservative estimate as to the money value of a human being, our annual loss from death, to say nothing of the loss from sickness, when death does not follow, is over \$20,000,000 every year from diseases which are almost wholly preventable. 10% of the loss would yield \$2,000,000, a sum amply sufficient to provide every means of prevention needed and maintain all the health officers required for this all important work. If two millions should seem a great amount for North Carolina to spend, you must not forget that it is insignificant when it is compared to the valuable interests it is proposed to be used in the protection and defense of. And the money must be appropriated. There

is too much at stake for us to look back or stop and count the cost. Let us make no apology, but as patriotic citizens it is incumbent upon the medical profession that we point out to our people the possibilities along the line of disease prevention. Tuberculosis is a preventable disease and its prevention alone is worth millions to North Carolina. Yet the same agency used to instruct and protect our people against the great white plague can at the same time carry on the work against typhoid, malaria and hookworm disease and other death dealing diseases. It seems a pity that there is not some one who can speak with the voice of thunder and arouse our State to its tremendous possibilities. The achievements of our army medical men at the present time on the Mexican border are so splendid that they must attract the attention of all the civilized world. The almost absolute prevention of typhoid and dysenteries under war conditions, when nearly 20,000 men are camping, has never in the previous history of the world been accomplished under anything like the conditions under which our border army exists today. No cases of typhoid in the army on the Mexican border, makes a splendid showing when compared with conditions 12 years ago when there were over 20,000 cases in our army which was operating against Spain. 90% of the recruits collected at Chicamauga developed typhoid within eight weeks after they arrived there. Think of such conditions and contrast them with what we have today on the Mexican border. It is difficult to credit the accuracy of such statements, but they are from the War Department and beyond dispute. What has been done in military life at Panama and in Cuba and Porto Rica can and shall be done in civil life, and for the greatest people on earth, right here in North Carolina. Did our State and national governments not fall short of this plain duty in the way of protection of public health. We should find here at home records of as beneficent achievements as those we get from distant lands and our own people would reap the full benefit of that ever advancing knowledge of diseases and its prevention which carries its message of hope to mankind. The health of the people is the greatest asset of the State and according to every dictate of reason should be the matter to receive first consideration at the hands of our State and national legislatures. All philanthropic, State and private expenditure directed to the relief of sickness and suffering due to preventable disease in the individual, even though at present commendable and necessary, represent a tremendous waste. The appropriations for

hospitals and sanitoriums for the care of individuals suffering from preventable diseases when weighed against prevention really constitute a waste. The prevention of disease may never be carried to perfection but medicine itself is not an exact science. Yet in both we are surely making rapid progress. The medical profession stands consecrated to the broadest and most effective altruism, and its efforts are directed not only to lengthen but to broaden and to make happier the span of human life. In this great State we have every reason to feel hopeful for the future, for at the head of our State medical department, we have in Dr. Rankin, a man modest, kindly, all accomplished, wise; he has a head to contrive, a tongue to persuade and a hand to execute. With the increased facilities furnished him by the last General Assembly disease will soon be removed from the realm of superstition and tradition. The pestilence that walks in darkness, and the destruction that wasteth at noonday, will cease to have an unreal and vague indefinite meaning for our people, but they will soon come to recognize that this among other things refers to the fly, the mosquito and other disease carrying mediums. They shall understand disease and see God Himself as He uses the weak things of earth to confound the mighty and destroy the careless, the ignorant and the vicious. If our people come to regard the fly and the mosquito as angels of death, smiting them who fail to guard against them, it need not do violence to their faith. And should we see the impure water used for drinking and other domestic purposes, flowing red, with all the blood of our citizens who have died by using it, the vision would not be overdrawn by any means. A better day has dawned, the light is pouring through the clouds in many places. Our present noble governor has never turned the deaf ear when some scientist was pleading for the health and life of the people. We believe he would fight for a national department of health. Surely we, as medical men, will never trust those who would foist upon the people charlatans and their pathies and isms. Within the next few years our people are going to be taught something of diseases and their prevention, and impure water, flies, mosquitoes, tubercular sputum, improper housing, insufficient and poorly prepared food, along with dust and filth and other undesirable conditions, things and citizens. Then we will lessen the number of funeral processions. When you have taught the people these and other essential things, length of days and riches and honor will cease to be an empty dream or no

dream at all, but they will be the happy realizations of our people.

Effect of Sanitation on Hookworm Disease.*

By Claude L. Pridgen, M. D., Raleigh, N. C.,
District Director of Sanitation, Hookworm
Commission North Carolina Board of
Health.

Mr. President and Gentlemen:—

I wish to present to you in the briefest possible way a report of my personal investigations as to the effects of sanitation on hookworm disease, and, without further comment, allow you to draw your own conclusions.

As I present these findings, I ask you to keep in mind five things:

First. That no negroes are included in this report. Their methods of sanitation, as we know, are almost always very bad; yet of nine hundred negroes that I have recently examined, I have found only about 8% of them to be infected. This I will not attempt to account for here.

Second. That in all the schools referred to as being under sewage influence, there are in every instance a number of children from sections that are not sewered. In my limited time I have had no chance to separate these from the others, and this, necessarily, as you see, causes the percentage of infection in the sewered districts to run higher than it really should.

Third. Where it was impossible to ascertain the type of sanitation used at the home, the school or community type has been used. If time permitted I could cite you a number of cases of children who enjoyed the best of sanitation at home, and who were innocent sufferers from uncinariasis on account of very poor sanitary conditions at the school.

Fourth. That these investigations were made during the past winter in the mountain counties of our State which we have heretofore considered as only mildly infected. I am firmly convinced that, with the natural drainage, pure water and general climatic conditions found in this part of our State, there is no reason for hookworm, typhoid and other such diseases to exist in these parts except solely a lack of proper sanitation.

Fifth. That in making these examinations, no cases were selected because of their apparent infection, but each school was examined as a whole and the citizens in many cases sent their specimens with those from the school at their own volition.

With these facts before you I present the

*Read before the Charlotte meeting of the North Carolina Medical Society, June 20-22, 1911.

following report of my investigations for your consideration:

In McDowell county I examined 179 people who did not use closets of any kind; of these I found 134 infected with hookworm, or 75%. In the same county I examined 125 people having the ordinary open privy, and of these I found 67 infected with hookworm, or 54%. I also examined in the same county 179 people who used the modern sewerage, and of these I found 62 infected, or only 35%—a difference of 40%.

That I may not tire you, and also in order to be as brief and clear as possible, I have tabulated my findings in these counties as follows:

No Privy			Open Privy			Sewer			
Ex.	Inf.	%	Ex.	Inf.	%	Ex.	Inf.	%	
McDowell.....	179	134	75	125	67	54	179	62	35
Catawba.....	69	28	41	49	15	31	331	47	15
Burke.....	449	282	63	144	55	31	1233	353	28
Yancey.....	337	112	48	265	47	18	.....	.....	...
Mitchell.....	265	148	56	102	22	22	.....	.....	...
Caldwell.....	318	206	64	162	76	46	462	193	42
Buncombe.....	.....	.....	.....	80	14	18	1176	128	11
Cleveland.....	11	7	64	118	50	43	221	25	12
Vance.....	.....	.....	.....	50	16	32	220	17	8
Wake.....	.....	.....	.....	.....	.....	.....	133	21	16

We find then that of:

1628 people not using closets, 917 are infected, or 57%.

1095 people with open privies, 362 are infected, or 34%.

3955 people with sewerage, only 846 are infected, or 22%.

The sewerage percentage being raised by children from outside districts.

It is also significant to note that:

Caldwell has had sewage for only two years and shows 42% infection.

McDowell has had sewage for six or seven years and shows 35% infection.

Burke has had sewage for eight or nine years and shows 28% infection while Buncombe has had sewage for 20 years, and shows only 11% infection. Buncombe also has a number of sanitary privies now in use.

These figures include the rural investigations as well as the towns with sewage.

You will bear in mind, gentlemen, that this report covers hookworm alone, and I found infection with eight other intestinal parasites in this section,—in some cases

quite a heavy infection. I found typhoid, etc., existing there also.

It seems to me, Mr. President and Gentlemen, that these facts speak for themselves, and that they are greater and more convincing arguments than any others at my command. It appeals to me most strongly that they and others similar that could be brought before you upon us as professional men the duty of taking up our fight for better sanitation in our State and pushing it boldly and bravely and thoroughly to a happy conclusion.

The Pediatric Aspect of Tuberculosis.*

By Paul H. Ringer, A. B., M. D., Asheville, N. C.

My subject is essentially a broad one. Treating it as I do before an audience composed in the main of general practitioners, it has not seemed best to take up in detail any one phase of the subject, but to try to present a bird's eye view of a question that is yearly assuming greater proportions.

It has been well stated that "the child of today is the consumptive of tomorrow," and in our age of progress we have come to realize that prophylaxis is the foundation-stone upon which our campaign of successful warfare against the tubercle bacillus must be waged. Within the past two decades our foremost pediatricists have shown us that children cannot any longer be considered as "little adults," but deserve a separate category sacred unto themselves. Etiological factors in the acquisition of disease affect the young differently from their elders, and owing to lack of development, to general hypersusceptibility, to a relative failure of that "balance of power" existing between the various systems of the body in the adult, the symptomatology of tubercu-

*Read before the Charlotte meeting of the North Carolina Medical Society, June 20-22, 1911.

losis in children varies greatly from its ordinary manifestations in those of riper years. Again, as obviously children cannot be reasoned with, cannot be subjected to the same regimen, cannot work out their own physical salvation as can adults, different therapeutic measures must be resorted to.

Etiologically, despite the work and writings of von Behring, the balance of authority swings toward the theory of inhalation infection. Comby strongly favors this theory, and lays special stress upon the many chances of infection in infancy, chances that increase with every day of the child's life. The infection theory is further borne out by the well known fact that after the first year both the morbidity and mortality from tuberculosis markedly increase, and that after the sixth year is reached rise still further, Comby laying this at the door of the manifold opportunities the child has for becoming infected. These chances are further increased if there be a case of tuberculosis in the family. Holt considers every child born into a family in which there is a case of tuberculosis as latently tuberculous, and Floyd and Bowditch conclude from a study of 1000 children that post-natal transmission from the parent is the most important factor in the acquisition of the disease. Of these 1000 cases, 639 had been in immediate home contact with tuberculosis, and of this number 36% showed definite signs of pulmonary consolidation. In one instance, one of the parents having an open case of tuberculosis, the disease was present in 4 out of 5 children.

The connection between the acute infectious diseases of childhood and the occurrence of tuberculosis is well known, though the *modus operandi* is but ill-explained. Copeland believes that measles, whooping cough and influenza being highly infectious in their nature, their epidemic occurrence together with the marked catarrhal inflammation of all the mucous membranes, and especially those of the upper respiratory tract, tends greatly to lower resistance. In the catarrhal condition of the mucus membrane of the respiratory passages lies the key to whatever connection exists between tuberculosis and these diseases, and in view of the plausibility of the theory of infection by inhalation, this relationship becomes obvious.

There is a tendency to minimize the role of predisposition in the child, to say nothing of that of direct inheritance which has practically disappeared from all save the lay mind. The gist of the argument is this: that in a family where tuberculosis exists, the opportunities for its acquisition on the part of the child are so manifold that the

word "predisposition" is faulty, throwing, as it does inferentially, the blame for infection upon the child's weakened constitution, whereas the real cause lies in the multiplicity of foci whence tuberculosis may be acquired.

The foregoing statements place the etiology of tuberculosis in childhood upon a very simple and common sense basis: easy to comprehend, and practical to contend with. These statements do not in any way argue against the scrupulous inspection of milk, against its pasteurization if need be, against the routine employment of the tuberculin test in all herds of cows, nor against the most sanitary condition of the dairy and of all connected therewith. These steps are too wise and too progressive to even be questioned—but the previous statements do bring home the fact that tuberculosis, whether in the child or in the adult, is essentially a house disease, and that its ultimate conquest must be effected upon the field of battle chosen by the organism—the tenement and the home.

It is a well-known fact that the symptoms of tuberculosis in children are notoriously inconstant and vague. This of course does not apply so closely to cases of surgical tuberculosis, cervical adenitis, arthritis, etc., nor to those cases ordinarily referred to and treated by the orthopædist—hip and spinal disease. The clinical manifestations, however, of pulmonary and bronchial-gland lesions in the young are confusingly protean. We have in a measure the constitutional symptoms of fever, loss of weight and strength; but the other systemic signs such as fast pulse, dyspnoea, cough and expectoration are often lacking, or else difficult to elicit accurately because of their very instability in infants and young children. A pulse rate of 130 to 160 in an infant does not cause deep concern, the child's breathing will often fluctuate greatly under a variety of influences, its temperature is notably labile, its cough is frequent, and its expectoration always absent. When to these obstacles there are added the rapid changes in weight taking place in the presence of digestive derangements, and the absolute impossibility of arriving at any of the subjective symptoms, difficulties of diagnosis are vastly augmented.

The physical signs of tuberculous thoracic disease in infants and children are frequently atypical. They are doubly so in that the apical rales and infiltration or partial consolidation so suspicious in the adult will often rapidly clear up, and also in that sporadic signs in unusual portions of the chest may determine serious trouble. Thus Miller and Woodruff in a study of 87 cases of pulmonary tuberculosis in children

found that only 15 had signs similar to those usually found in adults, and furthermore that all these children were over nine years of age. Thirty-five of the 87 cases had fine subcrepitant rales in portions of the lung other than one apex, usually near the nipple. As a result of their study of the subject, Floyd and Bowditch believe that owing to the peculiar anatomical structure of the chest of a child, the pathological process must be relatively large to be evident, and the non appearance of sputum, together with the difficulty of its acquisition, is a great handicap to diagnosis. La Petra gives briefly an excellent summary of the status of the diagnosis of tuberculous chest affections in infants. He says: "For an absolutely positive diagnosis of pulmonary tuberculosis in an infant suffering from a persistent hacking cough, (whether poorly nourished or not), one must either find the bacilli in the sputum, or see the lesion at autopsy. But the new tuberculin reactions of Pirquet, Calmette and Moro, when positive, are almost as reliable. For the negative side more can be said. If no bacilli are found upon repeated and careful search, and if the skin test be also negative, one can feel safe in excluding pulmonary tuberculosis, *no matter what the signs in the chest may be.*"

It is a noteworthy fact that skin tuberculin reactions are far more important in children than in adults, especially when negative. This importance begins to lessen after the sixth or seventh year. In the adult, while a positive Pirquet, Calmette or Moore may give confirmatory evidence, its presence is no more a pathognomonic sign of tuberculosis than its absence is an assurance of freedom from that disease.

Bowditch divides cases of pulmonary tuberculosis in children into four distinct clinical groups which, of course, merge imperceptibly into one another. These are:

1. Cases associated with bronchitis, and having scattered tuberculous nodules throughout the lungs. The physical signs are those of a moderately diffuse bronchitis, and are usually held not to be of ill omen until signs of consolidation appear.

2. Cases associated with tuberculous broncho-pneumonia, accompanied by various sized areas of more or less marked consolidation with their characteristic physical signs.

3. Acute miliary tuberculosis of the lungs.

4. Tuberculous bronchial glands.

With regard to the last two classes it may be stated that the physical signs of acute miliary tuberculosis of the lungs are as inconstant in the child as in the adult, and that while certain cases of tracheo-bronchial adenopathy can be diagnosed with certainty

by means of auscultation and especially by means of percussion, we have now in the X-ray, whether by the use of the fluoroscope or of the radiographic plate, an invaluable aid to the recognition of this condition.

Thus we see that both symptoms and physical signs are uncertain and unsatisfactory, but if we will bear in mind their departure from the normal, if we will hark back to Dr. La Petra's instructive sentence, if we will take time in our study of the case and carefully weigh family surroundings, chances of infection, systemic symptoms and physical signs, we shall make earlier and more accurate diagnosis of tuberculosis in our child and infant patients.

The prophylaxis and treatment of tuberculosis in children, as in adults, will always call for the co-operation of physician, sociologist and philanthropist. The great majority of plans for treatment and especially for prevention of infection are cast with regard to their practicability among the poor. This fact, however, by no means vitiates their usefulness in the upper classes of society, where, funds not being lacking, their application will be found comparatively easy.

Children vary from their elder brethren in temperament, mentality, adaptability and power of self-control. It is most difficult to reason with a child, to place it in a reclining chair upon a porch for 10 hours daily, to keep its spirits buoyed up with words of hope and common-sense. The infant can be kept in the open most of the time to be sure, it being too small and helpless to do aught but lie there, but the elder child is the one that tries one's patience and ingenuity. Children, it appears, can tolerate a relatively greater tuberculous infection than can adults, just as they most assuredly cannot tolerate as much enforced restraint. Thus, fortunately, they can be allowed more latitude than their elders with less likelihood of physical harm resulting than there is of mental rebellion setting in if they be kept in a condition of absolute quiet.

The first individual to receive consideration is the child in whose family there is a case of tuberculosis. These children are constantly exposed to infection, and sooner or later many must succumb. Home hygiene is of prime importance and must be insisted upon, but this can be left to those that are caring for the disease in the adult member of the household. One of the prophylactic plans that has worked best consists in the sending away of these children into the country, or at least at a distance from the focus of infection for a few weeks or months. While away they are

lodged in farm houses, in a home provided by the charitable organization, or in a camp run for beneficent purposes. Their life is wholly in the open, they are fed bountifully, all occupations are planned so as to be carried on out-of-doors, and thus the child that has reached that misty region known as the "pre-tubercular" stage is restored to health and usefulness. Again, children that remain at home can be made to become interested in gardening and, under competent direction, be taught to cultivate little plots of their own. The Cleveland anti-tuberculosis league has utilized this plan with great success, the children taking pride in the small amount of ground under their own immediate cultivation, and vying with each other to see which can make the best showing. This scheme creates a new interest in the child's life, and keeps him at light healthful work out-of-doors. At the same time, all children seemingly in need of additional nourishment are supplied with milk and eggs by the Associated Charities.

In various cities day camps have been established both for suspected cases and for those mildly infected, whither parents can bring their little ones to be taken care of during working hours under good hygienic and dietetic circumstances, the children being taught at intervals during the day, a bountiful mid-day meal served, and milk and eggs supplied to those needing them.

The foregoing measures relate of course only to those cases either not ill themselves and merely open to the danger of infection at home, or to those cases that, while frankly positive, are as yet in good physical condition. For both classes of cases the open-air school is one of the greatest institutions. Experiment in the direction of specific open-air schools for those actually in need of curative measures has led directly to more radical inquiry as to the possibilities of more opportunities for exercise and study in the open-air for all children in connection with regular instruction in all the schools. The example of the Providence, R. I., School Board in "cutting out southern brick walls and inserting in their stead long windows hung from the top and opening inward," thus capable of immediately furnishing an open-air room, might be followed by the school boards of all cities and country towns as well.

The treatment of active tuberculosis in children, whether the process lies in the bones, glands, or lungs, presents nothing particularly new or worthy of being stressed. Cases of surgical tuberculosis seem to do better at the seashore than do pulmonary cases. The Sea-Breeze Sanatorium at Coney Island is obtaining excellent results in the

treatment of surgical tuberculous conditions. For the active treatment of lung cases hygiene, rest, food and climate are, as in the case of adults, our main weapons. The ardent advocates of tuberculin laud its efficacy in children as they do in adults—on that question each must decide for himself. Generally speaking, the three prime elements in treatment, hygiene, rest and food, cannot be enforced as strictly nor as systematically in children as in those of riper years. The best possible must be done. The task is easier with surgical cases, offering as they do more opportunities for moderate exercise and for mild diversions of various kinds.

It is not within the scope of this paper to go into further details with regard to the many and varied means utilized for protecting exposed and saving infected children. Suffice it to say that all are based upon two large principles:

1. Fresh air and good food first and foremost; drugs seldom if ever.
2. Co-operation on the part of the various educational elements of society, medical, sociological and philanthropic.

It is only by studying out the needs of the individual community and meeting them as far as possible that a satisfactory solution can be reached, but the two foregoing rules must be rigidly adhered to if success is to result.

The writer in an experience of one year in one health resort, and five and a half years in a second, has been astonished at the small number of children seeking climate as an aid to recovery from tuberculosis. The statistics of our city hospitals for children reek with tuberculosis; why do so few come to the health resorts? The correct answer to the question is, I believe, the following: Because of the great probability of the inhalation theory of the etiology of tuberculosis, it is far more prevalent in the children of the poor than in those of the well-to-do. Fewer hygienic precautions are taken among the former, and in many cases a diagnosis is deferred until inability to work forces the patient to seek a physician—the chances for infection on the part of the child have by this time increased a thousand-fold. Again, the poor adult can come alone to the health resort—this the poor child cannot do, and funds are insufficient to pay for the journey and board of two individuals. So but few come, and indeed this is fortunate, for amid strange surroundings and without special facilities for the care and treatment of children the task would be one of vast difficulty.

And now, if we cast our eye backward over the subject that we have touched upon, what do we see? We see in every case of

tuberculosis in an adult the possibility of infection for many children. We see a vague protean multitude of symptoms not distinctly characteristic. We see some light in diagnosis, a light, however, which breaks only upon the carefully studied case. We see the salvation of generations yet to come in prophylaxis, in measures that may seem far removed from the actual daily round of the practice of medicine—in day-camps, in garden-plots, in open school-rooms. We see, finally, this prophylaxis attainable only by the union of the various elements of society, each of which is trying to achieve good in its own way, and we see in the realization of this prophylaxis the ultimate goal of all those who, turning their efforts to aid those more unfortunate and helping them to regain that which they have lost or to preserve that which is their birthright, are fulfilling in the noblest manner that sublime commandment "love thy neighbor as thyself."

The Relation of Hookworm Eradication to the Eradication of Other Diseases.*

By Jno. A. Ferrell, M. D., Assistant Secretary to North Carolina Board of Health.

In the eradication of hookworm disease the secondary results to be obtained rival closely the primary accomplishments. This is said, not without mature deliberation. We realize that in eradicating hookworm disease in itself probably more than 500,000 of North Carolina's men, women and children will be restored from their present condition of infection or sickness, decreased vitality, decreased mental and physical capacity for work and all too often poverty and immorality to which they have succumbed, to a condition of health and its accompanying thrift, vigor, intellectuality and elevated moral tone. No limit can be placed on the amount of energy, effort, and funds from every point of view which we are justified in expending in effecting the magic-like transformation among our people which will come with their freedom from these blood-thirsty parasites.

Though it is my privilege, and that of my co-workers, in addressing lay audiences, to dwell frequently and at considerable length on discussions of the disease itself and on the far-reaching influences on our people as a whole, its eradication will primarily effect, I know that, with few exceptions, to address North Carolina physicians thus would be a waste of time. It is the secondary results to come from its eradication, or in other words, the relation its eradication bears to the eradication of other

preventable diseases to which I most respectfully invite your attention.

Directly its eradication will affect the reduction or eradication of typhoid fever, Cochlin China diarrhœa, and amœbic dysentery, and will contribute largely to reduction of the fly pest. This is true because to a great degree the eradication of hookworm disease is going to be evidenced only as a result of preventive measures. Dr. Page will emphasize this in discussing the mild cases which, going untreated, serve as carriers of the disease. The preventive measures against hookworm disease are based on educating all the people in every walk of life to construct and use privies designed to collect in water-tight, fly-proof receptacles all excreta from the body and to subsequently dispose of the receptacle contents in a way to insure destruction to all hookworm ova and other disease organisms. As the infectious agents of the diarrhœas and dysenteries, as well as practically all typhoid bacilli, will be collected and destroyed by these same measures, the diseases they cause will likewise be eradicated along with hookworm disease.

The type of sanitary privy outlined above and agreed on by the Government's representatives for the respective diseases are theoretically and practically trustworthy. The paper of Dr. Pridgen will consider some of the evidences found in the State to confirm this assertion. To further substantiate the claims made relative to their value, one has but to compare the enormous typhoid rate in our army during the Spanish-American war, with the very light typhoid rate in the Japanese army during the Russo-Japanese war. We left human excrement exposed to flies, the Japanese did not. We lost five men by typhoid fever to every one killed in battle. The Japanese lost one man from all diseases to every four killed in battle.

Moreover, as Dr. Stiles points out, for every 100,000 inhabitants in the United States, the average typhoid death rate is 46 plus, whereas, in fifteen States where hookworm disease is most prevalent it is 72. He attributes this not alone to the devitalizing influence of hookworm disease, but largely also to people concerned using insanitary privies, and all too often none at all.

Other specific instances without limit could be cited to prove the practicability of preventing soil and water pollution by the use of the improved sanitary privies and the resulting prevention of the diseases above mentioned which can spread only where these sanitary measures are neglected.

Indirectly the eradication of hookworm disease will exercise a wonderful influence

*Read before the recent meeting of the North Carolina Medical Society at Charlotte.

favoring the eradication of the other common preventable diseases. No laws, however skillfully drawn, however much good, in the eyes of sanitarians, they may accomplish, and however much money is spent in their execution, if they come not with the consent of the people themselves as the result of educational work which has formulated a public opinion to enforce them they will be ineffective. Laws can be executed only by the people. Educate them to appreciate that they are for the people and their execution by the people will follow. Laws could be formulated now with little difficulty which if properly executed would eradicate not only the diseases mentioned above but practically every common disease we could mention which has had its causative agents isolated. The uniform co-operation of the majority of the people is essential to the success of any war on disease, and their uniform co-operation will not come until there is a uniform dissemination of sanitary knowledge.

In all educative work the simple, the apparent, the easily seen and proven are begun and mastered. The lessons thus learned fit the mind for considering the more complex and the less apparent. This principle applies to educating the people to conduct unrelenting warfare against disease. One quick, successful, easily comprehended and concrete victory over a single universally distributed disease will be worth more for educational purposes than would be many times the effort and money required, if they should be sprinkled here and there against a multitude of diseases in a way that no definite, striking results could be seen. In the latter instance by attempting many of the more complex health problems at one time the people may be confused, and rendered unable to appreciate the importance of their co-operation, because they can perceive no definite and concrete accomplishments in the short time they are willing to watch. All diseases, to be sure, should be fought as vigorously and as rapidly as possible, but the disease designed to most quickly give the necessary educational demonstration should take precedent.

No one of the common preventable diseases offers so many opportunities for educating the people on the practicability and value of disease prevention as does hookworm disease. Some of these advantages will now be presented so that the indirect as well as the direct results of hookworm eradication may be appreciated.

The hookworm is a higher type of life than are the causative agents of the other common diseases, and is the only one attaining a size permitting recognition without the aid of a microscope. Moreover,

every period in his life cycle from the time as a microscopic organism he emerges from the shell until the human body is entered by him and adult life reached can be easily demonstrated experimentally with little risk to the subject of the experiment. Soil which when applied to the skin produces no ground itch may be experimentally polluted. Exposure of the skin to this polluted soil results in the development of ground itch. Treatment seven or eight weeks later expels mature hookworms, whereas previous treatment failed to give such results. Moreover, in spite of the nauseating effect of thymol on them, many worms retain some blood in their bodies which gives rise to a dark color. By killing an infected dog—the kind that seems to starve in the midst of plenty—and opening two or three feet of the small intestine hundreds and often thousands of the culprits may be seen with their bodies engorged with blood. Moreover, inflated and damaged areas may be seen around every wound made by the worms. When a thief is thus caught with the goods his conviction is assured, whereas many juries will be slow to convict on what to them seems circumstantial evidence.

As every adult hookworm is large enough to be seen with the unaided eye, and as every one in the body can be expelled by treatment, there is no occasion for uncertainty as to when the disease exists or when the cause is completely removed. Moreover, as a more practical method for diagnosing the disease the microscopic recognition of the eggs can be depended on. It affords one of the surest and one of the simplest means we have for diagnosing a disease. No staining or chemical treatment is necessary, and as the eggs are very abundant in the feces, and are much larger than are the organisms of other diseases they are easily recognized.

No disease responds more readily to treatment at any stage in its progress than does hookworm disease, and recovery from no disease is more striking. Quite a number of our physicians, some of whom, I believe, are here, have reported a gain in weight, after treatment, of a pound daily for from two to five weeks. All of us have seen the withering specimens of humanity take a new lease on life and almost like magic develop into strong, healthy and useful citizens. Sometimes, though, the best part of life had been spent before the relief came. The results then are so apparent and come so quickly that the "Doubting Thomases" soon drop their disbelief after seeing the results of cures and are ready to fall in line and help to advance the health campaign.

Simple, yet effective, means for preventing the disease have been mentioned. In

case a few eggs should escape destruction in the sanitary privies and should develop into infecting larvæ, we can still protect ourselves from them by wearing shoes and avoiding uncooked food which has been on or near the polluted soil. Finally, if by accident a few larvæ should run the gauntlet and enter our bodies, we can tell when they have developed to adult life, and we have a drug which will promptly kill them, but not injure us if properly taken. No other disease offers us three methods for protecting ourselves, any one of which alone will prove effective. Malaria offers two methods for protection, but the protection from treatment, as is the case with diphtheria, must be promptly administered because the disease organisms multiply rapidly in the body causing the speedy development of a dangerous condition. Hookworms on the contrary do not multiply in the body, consequently the symptoms develop slowly and much more time is afforded for procuring the treatment.

On any isolated farm where the soil is polluted and those going barefooted suffer every summer with ground-itch, the sanitary privy may be installed and used by every one. After a period of from twelve to eighteen months all the larvæ failing to enter some human body will perish. Then those desiring to go barefooted can do so without any risk of having ground-itch. This procedure is analogous to the campaign being conducted with such great success by our farmers against cattle ticks. If the campaign against cattle ticks where cows are at stake is successful, can we not hope that the campaign against the hookworm will be successful where the members of our families are at stake?

No other disease is so uniformly distributed throughout the length and breadth of our State and Southland. Microscopic examinations of more than 23000 of our North Carolina citizens show more than 30 per cent. (or $7\frac{1}{4}$ thousand) of them infected. Though some of seven other intestinal infections are quite common, hookworm disease has been found three times as frequently as have been all the others combined. Having found it in 99 out of the 100 counties of the State, all in which search has been made, we know that in reach of every family in the State there is a chance for demonstrating the disease, its cure, and prevention. Moreover, as a single attack lasts for years no time has to be lost by health officers waiting for epidemics or for sporadic cases. The work can be done at any season of the year, whereas diphtheria or malaria, the two other diseases which yield readily to treatment, not only will not permit much delay for treatment, but they are in no in-

stance so constantly or widely distributed. To sum up what has been said, then, we may say that for educational purposes, hookworm disease affords greater opportunities than does any other disease for a quick, successful, easily comprehended and concrete victory over a single disease universally distributed over the State.

This argument is not based solely on theory. An active campaign in Porto Rico against hookworm disease for ten years among a people much inferior to ours has resulted in the little island having one of the best health departments in the world. In curing 300,000 victims of hookworm disease, a sample of what health work meant was demonstrated to the people. They saw and responded by appropriating more than \$50,000 annually for the health department. This was done in a mountainous island barely four times the size of Robeson county. It now bids fair to becoming a health resort and will no longer be known as a place to be shunned on account of disease.

For these reasons, we believe that, with the demonstration which can be made by eradicating hookworm disease, people in every community of the State will be aroused on the subject of disease prevention. In no other way can the right kind of public opinion regarding health measures be so quickly created. Once aroused the people will acquaint themselves with the possibilities of preventing other diseases. When once in possession of this knowledge they can be relied on to enforce whatever measures may be necessary for stamping out all preventable diseases. Increase the forces against hookworm disease!! Do it now!!

The National Formulary.*

By Robert L. Felts, M. D., Durham, N. C.

It is not the intention of this paper to advocate the use of the National Formulary preparations to the exclusion of prescriptions written at the bed side to meet the indications presented by individual cases, to which preference should be given in all cases, but the object is to encourage the use of the preparations of the U. S. Pharmacopoeia and National Formulary in preference to the proprietaries and secret nostrums.

It must be admitted that during the past twenty-five years, legitimate pharmacy has been grossly neglected by the medical profession and scientific therapeutics has been to a great extent supplanted by a

*Read before the North Carolina Medical Society, Charlotte, N. C., June 20-22, 1911.

rather indifferent method of prescribing ready made preparations without any clear knowledge of their composition, therapeutic action or dosage, and without taking into consideration the individual patient. This is not always done through ignorance, but often through motives of convenience and haste.

It is gratifying to note that this fact has come to be generally recognized and a decided reform movement has been brought about during the past few years, chiefly through the efforts of a number of individual members of the American Medical Association, the work of the Council on Pharmacy and Chemistry, and of the Council on Medical Education, and of the passage of the National Food and Drugs Act, this Act having raised the National Formulary to the position of an official standard giving it a significance and importance which previously it could not claim.

In order to meet the requirements of the new function of this book, the American Pharmaceutical Association at one of its late meetings, invited the Section on Pharmacology and Therapeutics of the American Medical Association to co-operate in the revision, and a committee of five members was appointed. This should cause an increased interest and a more thorough study of the book by the medical profession, in order that Therapeutics should be guarded as well as pharmacy in the revision.

The usefulness of the National Formulary to the medical profession will depend on the degree in which it reflects the best tendency in modern prescribing. The National Formulary seems to contain a good many useless drugs and mixtures that are more or less imitations of some of the popular proprietaries. The cure for this defect will depend largely on the active interest of the medical profession, as the National Formulary Committee has always endeavored to place in the book the preparations desired by physicians. Even if there are a few minor defects in the National Formulary, there are many good reasons why its preparations should be used in preference to the proprietaries and secret nostrums.

1st. The preparations have been brought to a common authoritative standard, and there can be no legally permissible deviation from the formulae when such preparations are ordered, thereby ensuring accuracy and uniformity in dosage and therapeutic effect.

2. The majority of the proprietary preparations and secret formulae are mixtures or compounds of drugs and preparations as found in the U. S. Pharmacopoeia and National Formulary, and could be easily

prepared by any experienced pharmacist, making it unnecessary for him to have his shelves laden with so many preparations of different names, but of almost identical composition.

3. The use of Pharmacopoeial and National Formulary preparations will stimulate a zeal for advanced pharmacologic and therapeutic attainments that is now shown in all other departments of medical and surgical practice and it will revive an interest and skill in the art of compounding and dispensing, on the part of the retail pharmacist.

4. With a total of more than 1300 drugs and combinations of drugs in the U. S. Pharmacopoeia and National Formulary and a few of the non-official remedies, approved by the Council on Pharmacy and Chemistry, it certainly appears that we have sufficient armementarium for the medicinal treatment of disease.

5. The use of these preparations will discourage the vicious and widely spread habit of self medication which is encouraged by the easy familiarity the public acquires of the proprietaries when they are so extensively prescribed by physicians and offered for sale over the counters of the retail druggist. The return to rational therapeutics must depend upon a thorough knowledge of what the U. S. Pharmacopoeia and National Formulary contain. *Materia Medica* and Pharmacology should be more efficiently taught in the medical schools and the importance of the Pharmacopoeia as a book of reference should be insisted upon, and the physician should continue to apply himself closely to the study of the preparations of the U. S. Pharmacopoeia and National Formulary, and their therapeutic effects.

As a means of further familiarizing physicians with the preparations, joint meetings between local societies of pharmacists and physicians is desirable and should be encouraged. The experienced pharmacist and physician can each render good service to the profession of the other by hearty co-operation in establishing a more ethical practice of the art of pharmacy.

The final result of the movement which is now seeking to abandon, indefinite and variable preparations must result in a more rational and efficient pharmacy.

Phlebitis of the Femoral Veins. Following Surgical Operations and Traumatic Conditions in the Pelvis.*

By Rigdon O. Dees, M. D., Greensboro, N. C.

Phlebitis or phlegmasia alba dolens or

*Read before the Charlotte Meeting of the North Carolina Medical Society, June 20-22, 1911.

milkleg is an extremely troublesome complication, following certain operative procedures in the pelvis, and too complicates obstetrical and medical cases. It is by no means a condition easily met, and not infrequently does it prove fatal, and at times when we think all acute symptoms have subsided.

Causes.—The causes of inflammation of the femoral vein or veins, as the case may be, are many, and among the list prophylaxis, should play a large part in the treatment, so far as we can control, by avoiding unnecessary trauma in the pelvis. Ligating vessels en masse or including tissues within the ligatures, and such things as tend to bring about too much change in the circulation.

There are causes which we cannot control; accidentally puncturing vessels in pus cases, gonorrheal and syphilitic infections, instrumental procedures in mal normal obstetrical cases.

Histologically, the vein is very poor in its muscular coat, and does not have that elasticity, like the arteries, and therefore is prone to infection, and sluggish circulation, and an inflammatory process, however small, will cause a whipping out of the fibrin element of the blood, with a resulting thrombus, and a possible distribution of emboli to the lungs, brain or heart, with their fatal results.

Diagnosis.—When the condition is well developed, a mistaken diagnosis would seem impossible. Pain and tenderness along the course of the vein of one or both legs, usually, the left. Oedema of the extremities from below up, if it be an endophlebitis or from above down, if a cellulitis, which involves the veins. Elevation of temperature, rapid irritable pulse etc. are sufficient it would seem, not to err in diagnosis. However, there are cases, which are obscure in their initial stage. When a patient complains of hip or leg pains, following a surgical operating in the pelvis, or in an obstetrical case where there has been great trauma, the result of a difficult instrumental delivery, or a long drawn out medical case, it should arouse our suspicions and put us on guard. If it be one extremity only, that will be involved, we will note an elevation of temperature from one to two degrees Fahr., in the affected leg. This condition being present, frequently, throughout the course of the complication.

Treatment.—Other than prophylactic, is absolute rest in bed, for one week or more, after all symptoms have subsided. Elevation of the extremities to relieve the edema, and to aid in the return blood flow. As to medicinal agents, many things are recommended; the one most in favor are to

apply, *but not rub*, a 50 per cent. or better still, straight ichthyol or an ointment of ichthyol, belladonna and mercury, or an olive oil dressing. Wrap the parts in cotton batting or flannels and lightly bandage, avoiding at all times, any manipulating that would have a tendency to cause a loosening or softening of the thrombus, and a distribution of emboli to the heart, brain or lungs, with their usually fatal termination.

Potassium-iodide, seems to have some beneficial effects in bringing about an absorption and elimination of a thrombus and an inflammatory process, in and around a vein.

Vaccine Therapy.

Bulloch, at the Royal Society of Medicine on 1st June 1910, said; "So far as I have been able to learn, the profession can be resolved into four groups with regard to the question of the value of vaccine therapy. There is, first, the clinician, who boldly and publicly asserts that as a result of his experience he is unable to subscribe to the view that the results of vaccine therapy are better than those obtained with other well-tried methods. This group appears to be small.

"There is a second and much larger group who allege this in private, but for various reasons do not assert it in public. This seems to include a large number of clinicians. A third and small group condemn vaccine therapy by word of mouth, but practice it by hand. I feel sorry to refer to this group, and I only do so because I know it exists.

"Lastly, there is a group, in which I reckon myself, who consider that results can be achieved by vaccines which have not hitherto been obtained by other and older methods. . . . I believe we have hitherto seen the worst of vaccine therapy, and better results will be achieved when it is recognised that this method is not to be looked upon as a dernier ressort. . . . The attitude of the clinician is nevertheless remarkable. If a desperate case gets well on vaccines it is alleged to be a question of chance; if it does not get well, the case but confirms the unfavourable opinion which the clinician expressed."

In the course of the year which has passed since Bulloch aired these views considerable changes have taken place in the attitude of many of the medical profession in relation to vaccine therapy. Much valuable data has been accumulated, the method of treatment has become more widespread and more intelligently practised, and though the sphere of usefulness of the the-

therapeutic inoculation with dead cultures of bacteria is still undefined, the practice of this form of treatment is recognised as an important adjunct of therapeutic medicine.

Hamill (Arch. of ped., February 1911), after referring to results published by Alice Hamilton and Jean M. Cooke (Journ. of Infants' Diseases, 198¹ vol. v. p. 158), Butler and Long (Journ. of Amer. Med. Assoc., 1908, vol. i. p. 744, Ibid., vol. ii. p. 1301), and Churchill and Soper (Journ. of Amer. Med. Assoc., 1908, vol. ii. p. 1298), regarding the treatment of gonococcal vulvo-vaginitis in young children by means of a gonococcal vaccine, which went to show that the effect on the disease was by no means marked, quotes Hamilton (Journ. of Amer. Med. Assoc., 1910, vol. 1196), whose results were much more favorable. Hamilton treated 84 cases with vaccines, and had 76 cures and 8 failures. The cure consisted of an absence of gonococci after four bacterial examinations of the secretion from the vagina, made at intervals of a week, followed by two examinations at an interval of two weeks. Nineteen of his cured patients were seen five months after the last evidence of infection had been present and were all found free from gonococci.

Howland and Hoobler (Arch. of Ped., September 1910) write: "We have used stock gonococcus vaccines as a routine measure in the vaginitis ward of Bellevue, in conjunction with the usual irrigation treatment. Several cases in the outpatient department have been treated with vaccines alone. In many cases the combination of vaccine and irrigation treatment cause the discharge to be very greatly diminished or to disappear, but the period of observation was not sufficient to enable us to draw any conclusions as to the ultimate outcome. A few cases in the hospital treated until the discharge had ceased appeared in the outpatient department with a pruritic discharge. We have not been impressed by the efficacy of this form of treatment, and believe, with majority, that it improves symptoms but rarely effects a permanent cure."

Howland and Hoobler also treated over fifty children suffering from pneumonia with pneumococci vaccines, but were unable "to report any apparent beneficial results from their use, nor were there any unfavorable ones." Both autogenous and stock vaccines were used in these cases. The same authors found that cases of general furunculosis usually yielded readily to treatment by autogenous vaccines of staphylococcus pyogenes aureus, and they say, "Our experience with autogenous vaccines in localised staphylococcus infections has

been entirely satisfactory. Their value can hardly be over-estimated." They also report 3 cases of staphylococcal septicæmia successfully treated by vaccines.

Local infections due to the streptococcus, such as empyema and otitis media, yield less readily to vaccine treatment than do similar infections due to the staphylococcus while in cases of general streptococcal due to the staphylococcus, while in cases of general streptococcal infection it is usually difficult to tell what part the vaccine played in the favorable issue.

Treatment of local and general conditions caused by infection with bacillus coli has been largely carried out, but few results have been published.

As regards treatment with tuberculin Hamill says: "In summing up, it may be repeated that the results from the vaccine treatment are much more satisfactory in early life than in later life, and localised tuberculosis lesions, especially the glandular types of tuberculosis, are much more favorably affected than the pulmonary type, especially those with generalised symptoms."—Edinburgh Medical Journal.

A Useful Preparation

It is of the utmost importance to keep their hands soft and supple, as nothing is more objectionable to a sick person than to be touched with that are hard and rough. At the same time, nurses have so constantly to put their hands in preparations which have the effect of roughening them that many will be glad to know of a preparation which is easily prepared for keeping them in good condition. An experienced private nurse sends us the following recipe.

An excellent preparation for keeping the hands soft and white is made by mixing 2 oz. glycerine, 2 oz. toilet vinegar, half ounce rectified spirits of wine. Rose water or Eau de cologne may be used instead of the toilet vinegar if preferred.—Brit. Jour. of Nursing.

Hemorrhage at the Menopause.—Labeysie (Gaz. de gyn., advises against the negligence and the lack of boldness in diagnosis which allows a patient at the time of the menopause or theaborts to wait when having uterine hemorrhages until it is too late to operate for the cancer which is the usual cause of irregular hemorrhages. He says that we should make up our minds that the menopause does not begin at thirty-five and end at sixty years of age. At this epoch the woman is exposed to the same troubles as previously and in addition to that of cancer. The normal menopause passes without incident. Whenever hemorrhage occurs after menstruation has ceased for a time the patient should be

warned of the possibilities. He says that we should carefully observe every woman after the menopause, and be ready whenever a possibility of the diagnosis of cancer prevents itself to operate at once, and not daily with a useless curetage, but do a prompt hysterectomy.

The Complaints of Summer,

Someone has acid, very aptly: "People are never satisfied—they are always complaining of something. In winter it is too cold and now summer complaints are in vogue."

When called upon to handle the bowel affections incident to hot weather the doctor should not forget that the very first thing to do is to empty the elementary canal of all fermenting, toxin-breeding food-waste—as quickly as possible and as thoroughly. For this there is nothing so nothing so effective as a good non-irritating saline, such as Abbott's Saline Laxative. A full dose in a glass of water will clean out the bowel in from four to six hours.

Then, when the bowel has been emptied, an intestinal antiseptic ought to be given, especially when the stool is vile-smelling. The combined zinc, sodium and calcium sulphocarbulates (as afforded in W-A Intestinal Antiseptic, A. A. Co.) serve best for this purpose. Having done this much, an astringent may now be given with good effect, as copper arsenite or cotoin, or zinc sulphocarbolate alone to effect. To keep the bowel sanitary and to guard against relapses it is advisable to put the patient on bulgarian bacillus tablets (Galactenzyme) for a prolonged period.

Their Triple Arsenates with Nuclein is an admirable tonic combination.

This line of treatment is strongly recommended and, by following it out, any doctor will have better results this summer than he has ever had before—that is certain.

Aberrant Goitre.

Gelle and Bertein record two cases of solid tumors occurring in the thyroglossal tract (*L'Echo med.*). Both were situated at the base of the tongue. The first was the size of a large hazel nut, placed at the apex of the lingual V, and covered with a rich venous network. The first and only symptom was hemorrhage from one of the veins. The tumor was with difficulty removed through the mouth, as there was no distinct plane of cleavage. It was bi-lobed, one lobe median in position and seeming to emerge from the foramen caecum, the other to the left and gradually tapering off into the substance of the lingual muscles. Microscopically the lobes were found to differ in

structure, one showing the typical appearances of the thyroid gland with patches resembling parenchymatous goitre, and the other consisting almost wholly of a rich network of glandular proliferation with no colloid material.

In the second example the tumor was of larger size, filled up the greater part of the pharynx, and had for some weeks given rise to respiratory embarrassment, which was aggravated by bronchitis. Swallowing was not affected to the same extent. Tracheotomy was performed with immediate benefit, and the tumor was removed at a later date. Chloroform was administered through a Trendelenburg cannula, the pharynx was opened by a median incision splitting the hyoid bone, and after a laborious dissection the tumor was enucleated. In this instance, as in the last, the hemorrhage during operation was profuse. On the fourth day the cannula was removed, and the patient made a speedy recovery. Microscopically the tumor was found to consist of two parts, one composed of lobules of thyroid tissue with muscle bundles penetrating here and there, and the other of dense connective tissue with some calcareous deposits.

In all forty-three cases of solid tumors of the thyroglossal tract have been recorded. They occurred almost exclusively in females, and at any age, but usually about puberty. On two occasions they occurred in the newborn and proved rapidly fatal. The first symptom varies. It may be hemorrhage from the mouth, respiratory embarrassment, myxœdema, or laryngitis. As the growth increases in size it gives rise to difficulty in moving the tongue, in swallowing, and in phonation. The tumor is covered by mucous membrane which is rich in veins, and in its growth it may lead to ulceration and repeated hemorrhages. The structure of the tumors follows two different types—thyroid tissue left behind during the descent of the gland, and elements which represent a primitive stage in the glandular development. The latter type forms the adenomatous tumor first described by Bochealeck. The two structures frequently coexist in the one tumor. The thyroid tissue may exhibit the same changes as occur in parenchymatous and cystic goitre. Calcareous degeneration also occurs. In position the growth may be submucous or intramuscular. Its removal may be followed by myxœdema.—*Edinburgh Medical Journal.*

Charlotte Medical Journal

Published Monthly.

EDWARD C. REGISTER, M. D., EDITOR
CHARLOTTE, N. C.

MEASLES.

There are some peculiar features about this malady. It is one of the most infectious of all, ranking in this respect with scarlet fever and whooping-cough. In no other fever, excepting scarlatina, can the temperature rise so high with so little peril from hyperpyrexia. It stands with tuberculosis as the only instances of infectious fevers which are not accompanied by leucocytosis. And if one of our colleagues is right, it is an exception to all other infections to that saturation with calx sulphurata does not confer immunity.

An explanation of this last statement is due: Two years ago the Medical Record published a report from Dr. Ussher, an American medical missionary in Turkey. Dr. Ussher was in charge of a school with 600 children and a clinical service numbering thousands of patients. He found himself facing an epidemic of typhus, scarlet fever and smallpox, and no vaccine virus within 1000 miles. The only resource at his disposal was calx sulphurata, and he put his people upon it, as a remedy for the declared disease and as a preventive for those liable and exposed to the infection. His results were satisfactory beyond expectation. Before his report appeared and since, saturation with this salt has been employed in a number of infectious maladies. Saturation is readily induced by giving three to five grains of calx sulphurata, of full U. S. P. quality, each day until the skin begins to exhale the odor of the drug. Smaller doses then suffice to keep up this effect. No insect will attack a person thus saturated, and it is believed by those most familiar with the remedy that no disease germ or parasite will attack or remain in a body thus saturated. To the patient the remedy is harmless.

Since Dr. Ussher's remarkable paper appeared we have suggested the use of calx sulphurata as a preventive of infectious diseases, and with uniform success, until quite recently. One correspondent tells us he has given the drug, of the best quality, in ample doses, and has found measles develop in the patients. This experience is so exceptional that it deserves investigation. Men are prone to report only successes, yet it is most important that the limitations of a remedy should be established as well as

its successful applications. It may be that the method employed was not well chosen, although the doses seem to have been adequate. But we shall not be surprised if measles proves an exception in this particular also.

There remains another experiment to be applied to this malady. Since leucocytosis does not occur in measles normally, it should be ascertained whether the enormous increase in the number and activity of the leucocytes following the administration of nuclein, or of pilocarpine, would have any influence over the disease. We once had the singular experience of seeing the development of an attack postponed, while the patient took phenacetin, for over a week. When the remedy was discontinued the disease resumed its march where it had stopped.

If an infectious fever can be postponed there seems no good reason for denying that it can be cut short, if we know how. Calx sulphurata cuts short some infections, such as gonorrhea. But no progress can be made along this line if absolute denial of the possibility of ever finding any agent that will in any way interfere with the course of a disease, is accepted as a creed by which one's orthodoxy is determined. It is the paralysis of endeavor. Better be wrong and actively exert ourselves to better things, than right and sit supinely, doing nothing.

Dr. R. Milne recently gave a London society a paper on the treatment of measles. His method consisted in saturating the child with eucalyptol by inunction, and applying phenol 10% to the throat. And then you just should have heard how his brotherly colleagues went for him!

One said measles wasn't of any consequence anyhow; and failed to see any proof of the value of the treatment in the evidence proffered. The next said that whatever good was secured from eucalyptus was better afforded by phenol solutions. A third found the method a total failure. A fourth didn't believe a person could be so saturated with eucalyptus as to prevent her carrying infection. A fifth denied the novelty of the treatment, asserting that his father had used it and taught it to him many years before Dr. Milne had been born.

In his closing remarks Dr. Milne gave evidences of having been very effectually squelched. Hereafter he will discuss pathology and confine his remarks on treatment to the well-tried methods of the text-books, and of these he will scantily remark in pessimistic strain.

How very familiar it sounds. Reminds one of the chap who borrowed a wheel-

barrow which returned in damaged state. His excuses were:

1. He never borrowed the wheel-barrow.
2. It was broken when he borrowed it.
3. It was whole when he returned it.
4. It wasn't their wheel-barrow anyhow.

Nevertheless, Dr. Milne's method may possess merit. It deserves something more than the jealous, pig headed detraction given. Saturation with eucalyptus may be of value as a direct antiseptic, as a stimulant to the respiratory mucosa, and as a means of repelling flies and other insects. It deserves a trial—a real trial, that is, and not such a one as would be given by men as determined to find no good in the idea as were Dr. Milne's colleagues.

THE TUBERCULOSIS PROBLEM: HOW THE STATE MAY AID MEDICAL EDUCATION.

Massachusetts is taking up the problem in a way that bids fair to provide at least an adequate means of solution. This State proposes the establishment of local sanatoria which shall be approved by the State Board of Health. To these the care of advanced tuberculous patients is to be entrusted, and whenever the patients or friends are unable to pay the charges, the State is to allow five dollars a week therefor. A special department of the State Board of Health is to take charge of all matters relating to tuberculosis. The existing sanatoria of the State are to be utilized exclusively for the early curable cases.

The proposed Bill is advocated in The New England Medical Monthly, by Mr. White, a prominent candidate for Governor. In his presentation he avers to the need of supervision of the tuberculous foci—the homes that kill one after another for want of efficient disinfection.

It is time for Massachusetts to take up this matter. Since the Pilgrims stepped ashore from the Mayflower, tuberculosis has made appalling inroads upon their ranks. Whether the bacillus sat on Plymouth Rock awaiting their coming or rode in with the bugs infesting that remarkable shipload of antique bureaux, he has made the bleak shores of New England his favorite home.

The advantages of the proposed plan are many. Segregation of the infected, with disinfection of the foci, should materially lessen the incidence of new cases. Sanatoria afford the tuberculous poor many comforts they could not enjoy elsewhere. The separation of advanced cases from the present sanatoria would permit the utilization of them for a greater number of those in whom the possibility of cure is greater. These institutions could then give more

extended and systematic investigation to methods proposed for the cure of the malady.

If it is judicious in Massachusetts to take such a step, how much more should it be for other commonwealths to act now and care for their comparatively few cases, rather than to wait until their number is so great as to render the cost burdensome.

The beginning made this year by the legislature of Illinois should be developed into an adequate means of meeting the evil. This was one of the arguments advanced by the opponents of an appropriation to one of the medical colleges of Chicago. The State possibly could get along with fewer medical colleges. A medical education is not such a necessity as a common, high, or technical school training. If a man wants to study medicine, or law, or theology, he should want it seriously enough to earn the funds necessary; otherwise let it go by. We can get along without a material increase in the ranks of the professions for some years to come. There is no good reason for applying State funds to the support of medical colleges, or to pay the expenses of medical students.

As to research work; that has about as much relation to the everyday needs of the people as appropriating funds to develop the invention of a flying machine has to providing good roads. Research might wait until we have taken steps to utilize such work as has already been done in that line. It has been nearly thirty years since the tubercle bacillus was discovered, the greatest research work possible, and many of the States have done nothing to utilize that discovery. Give the people some chance to escape tuberculosis, so far as the use of State funds for such matters goes, and let the medical colleges find funds for their own support. It is to be regretted that this argument was found self-seeking and altogether objectionable by those who advocated the presenting of State funds to medical colleges.

If our State feels it incumbent upon itself to aid the medical colleges, there is a way in which it can be done with regard to the legitimate interests of the citizens. The most vital thing in the training of medical students into skilled physicians is bedside or clinical instruction. Hence, the times demand that colleges should have hospitals where such studies may be carried out. These institutions supply to the sick certain advantages not to be had at their homes. Even in this day, when every live town boasts a hospital, the great cities offer, in this respect, superior advantages in material and personnel. While the body of State physicians contains many highly qualified

members, it is safe to say that those of commanding ability are drawn to the great city, where their talents may find adequate opportunities.

In every county there are now patients who will die or become burdens to the public, who might be cured and become valuable, self-supporting citizens, if they had the advantages to be secured only in the hospitals of a great city, where diseases and injuries are seen frequently, which come to the country doctor only at altogether too rare intervals to permit him to acquire skill in their management. Let the State contribute to the support of such patients, either in the city hospitals connected with the colleges, or in new hospitals founded by the State at large, and devoted to its wards. This would be an efficient aid to medical education and a boon to the people at the same time.

This policy has been followed in Pennsylvania, where each legislature for many years has appropriated funds to the college hospitals, with the hearty approval of the public. Year after year the people have endorsed a policy that inures to their own interests, since every county has examples of the benefits in the case of citizens of its own community.

EDITORIAL NEWS ITEMS.

Drs. Jas. K. Hall and Paul V. Anderson, first and second assistant physicians at the North Carolina State Hospital for the Insane, located at Morganton, have severed their connections with that institution, and they will soon begin to operate a private sanatorium of their own near Richmond, Virginia.

These two physicians are both very capable in their professional work, and will be greatly missed at Morganton.

Dr. Hall received his medical degree from Jefferson Medical College in 1904. Dr. Anderson received his medical training at the University of Virginia, having graduated from the medical department of that institution in 1904.

This new sanatorium which these prominent physicians have established will be particularly adapted to the treatment of nervous diseases.

Their institution will be thoroughly equipped and well managed. We feel confident that the efforts of Drs. Hall and Anderson to make this an up-to-date hospital will be as successful as their work at Morganton has been.

The directors of the Greenwood Hospital, at Greenwood, S. C., have recently finished a most magnificent building, which will be

open for the reception of patients within the next few days.

The building is one that would be a credit to any city the size of Greenwood, and we have every reason to believe that the hospital will be a great success.

The Medical Department of the University of Tennessee has been moved from Nashville to Knoxville. The Medical Department of the University at Nashville has been abandoned. This leaves Nashville with only one medical school, the Medical Department of Vanderbilt University, whereas it once had four medical colleges.

Marriages.

Dr. Thomas Duncan, a prosperous young physician of Pageland, S. C., and Miss Attha Funderburk, of Dudley, S. C., were married on September the 20th at the bride's home.

Deaths.

Dr. William A. Graham, a very prominent physician of Durham, N. C., was found dead in his library on Sept. 19th.

In the medical profession, Dr. Graham was regarded as a safe adviser and a skilful surgeon. Of the young physicians of Durham, he had perhaps the largest practice and stood at the top. He graduated from the University of North Carolina in the class of 1895 and took his degree in medicine at the University of Pennsylvania in 1899. He was an active member of the Medical Society of North Carolina, having joined that organization in 1901.

The deceased is a brother of Dr. Joseph A. Graham, of Durham, one of the most prominent surgeons in North Carolina.

Dr. R. Richardson, of Thomaston, Ala., a physician of prominence in that section of the country, died at his home on August the 13th.

Dr. Richardson graduated from the Medical Department of the University of Alabama in 1897.

Dr. J. F. MacKay, the eldest, and a highly esteemed physician of Lancaster, S. C., died at his home on September the 27th. He had been practicing medicine in that section of the country for over forty years.

Dr. MacKay graduated from the Medical Department of the University of South Carolina in 1859.

Dr. J. L. Speas, one of the oldest and most prominent physicians of Yadkin county, N. C., died at Boonville, his home town, on September the 24th. Heart failure was the cause of his death.

Dr. Speas graduated from Jefferson Medical College, Philadelphia, in 1877. Since his graduation from that institution he had practiced medicine in Yadkin county, where he, by his skill and untiring efforts, had acquired a very large practice.

Dr. William Aerill Fort, of Gaffney, S. C., died at his home in that city on September the 21st. Heart failure was the cause of his death.

Dr. Fort was one of the most competent physicians of South Carolina, and his practice was one that any physician would feel proud of. He was born in Wake county, N. C.

He graduated from the College of Physicians and Surgeons, Baltimore, Md. Since he received his degree from that institution he has been practicing medicine in South Carolina.

Book Notices.

Hygiene and Morality. A Manual for Nurses and Others, Giving an Outline of the Medical, Social and Legal Aspects of the Venereal Diseases. By Lavinia L. Dock, R. N., Graduate of Bellevue Hospital Training School, Resident Member of the Nurses' Settlement, New York, Secretary of the International Council of Nurses. G. P. Putnam's Sons, New York and London. The Knickerbocker Press. 1911.

The authoress of this manual is to be congratulated upon the magnificent manner in which she has expressed her views and knowledge of diseases pertaining especially to women. The object of this volume is to reiterate the social significance of the venereal diseases and the crusade upon which women should enter in regard to them.

The book is well bound, and shows that the publishers have spared no pains in doing their part well.

Personal Hygiene and Physical Training for Women. By Anna M. Galbraith, M. D., Fellow of the New York Academy of Medicine. 12 mo. of 375 pages, with original illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, \$2.00 net.

The purpose of the authoress of this volume has been to present in a clear and concise manner the fundamental physiological laws on which all personal hygiene is based.

The spirit of the times demands nothing less than the most perfect development of the body and mind of which youth is capable, and maintaining the highest degree of efficiency of the adult worker for the longest possible term of years.

The authoress has spared no pains or effort in making this volume very complete, and it is one that should be studied and its principles practiced by all people.

The binding is substantial and neat in every detail.

Clipped from October Number of McClure's Magazine.

The October McClure's opens with Owen Johnson's new novel of American college life, "Stover at Yale." Diuk Stover's experiences as an undergraduate promise to be the most interesting of any in which he has as yet figured. The first chapter sets him amid a whirl of perplexing and exciting problems. The combative pluck and energy with which Diuk Stover attacks these problems awakens the reader's sympathy from the start.

In "The Insurance Agent," Harvey J. O'Higgins tells the story of another of Detective Burns' great cases—one of the most dangerous and difficult which he ever undertook.

Colonel Christian Rath, the man who had charge of the hanging of Mrs. Surratt and her companions, has broken his silence of over forty years, and is giving his account of the execution as he remembers it.

The story of how the people of Seattle dislodged a corrupt mayor by means of a new government device is told by Burton J. Hendrick, under the title of "The Recall in Seattle."

Seattle is a brand-new city, with a population that has grown in fifty years from 50 to 250,000. All the municipal evils developed here into an amazingly difficult problem, which was rendered most difficult under the administration of a complacent mayor. The respectable citizens of Seattle, aided by the women, who had just received the franchise, made a splendid fight against the existing order, removed the mayor, and cleaned up the city.

J. Adams Puffer, in "Boy Gangs and Boy Leaders," gives some tremendously interesting first-hand accounts of boy truants, boy runaways, and "bad boys" in general.

A. E. MacFarlane shows that New York City has placed two and one-half million people in the worst fire traps in the world.

Besides the two serials by Owen Johnson and Mrs. Ward, McClure's runs a number of interesting short stories.

"Tragedies," by Estelle Sturgis, is a very true and touching little story of the things that make up the inner life of a child.

In "A Gay Deceiver" Kathleen Norris has told a story of a plucky New York girl who gives up her dance and tea-parties to

go out West and put gayety and life into a little lumber camp.

"The Honest Man" is one of Percival Gibbens' best Miss Gregory stories.

In this number of McClure's further information is given about Mme. Montessori's methods and teachings, which, judging from the letters published, have aroused wide-spread interest in this new educational system.

Amelie Rives' New Novel in Lippincott's.

The literary event of the month is doubtless the appearance of a powerful new novel by Amelie Rives (the Princess Troubetzkoy), published complete in the October Lippincott's. Its title is "Hidden House," and the scenes are laid in Virginia, as were those of the author's memorable first success, "The Quick or the Dead," which was also brought out in Lippincott's Magazine. It is not too much to expect that this new novel will create an even greater furore than did the earlier work, for it cannot be denied that to the Princess's former brilliancy and charm have been added a depth of feeling, a sureness of touch, and a keenness of insight into the human heart and its vagaries, which could come only with added maturity. The plot of "Hidden House" is absolutely unique, and in realism, in ardor, in fascination, the story is matchless. It will be interesting to compare its popularity with that of the former work, of which hundreds of thousands of copies have been sold.

The recent substantial increase in size of the magazine affords room for a greater number of short stories than heretofore. Those for October are a diversified lot, with plenty of action and a goodly proportion of humor. They are "The Evasion of Florida Lusk," by Alice MacGowan; "The Last of the Mohicans," by Dorothy Canfield; "The Daughter of an Image Maker," by Will Levington Comfort (author of "She Buildeth Her House"); "Pot Luck," by Dion Clayton Calthrop; "Sally's Soul," by Myra Webb McCord; "Cards," by Nan Maury Lemmon; "How Stephen Lance Came to a Bad End," by Iris Blue; and "Clipped Wings," by Katherine Hopson. Then in the department "Short-Story Masterpieces" there is a translation of Francois Coppee's wonderful little story "The Substitute," with an introduction by the editor. "A Battle Royal of Dames," a travel sketch by Anne Hollingsworth Wharton; "The Appeal of Fall," by Edwin L. Sabin; and "Modern," by Thomas L. Masson, while not fiction, have fictional qualities and are full of lively interest.

Forbes Lindsay, the well-known writer and traveller, contributes a striking paper on "Opportunities for Americans in Pana-

ma." The financial article this month is "Safe Methods of Speculation," by Edward Sherwood Meade, Ph.D., a financial expert of international reputation. In the automobiling department, conducted by Churchill Williams, the subject treated this month is "The Car on the Road." In "Ways of the Hour" there are crisp, seasonable articles on "The Masculization of Girls," by Minna T. Antrim; "Where Language Fails," by Clifford Howard; "The Poetry of Science and Invention," by Herman Scheffauer; "Making Mistakes," by Homer Croy, and "More Farms Needed," by Joseph M. Rogers.

Poems by George Sylvester Viereck, Clinton Scollard, Ethel Colson, and other well-known singers, and some clever miscellany by John Kendrick Bangs, Ellis O. Jones, and others, complete the number.

Abstracts of the Leading articles of the month.

Conservative Gynecology.—Gibb (Canadian Medical Association Journal) is of the opinion that gynecologic conservatism should, in the first place, imply the avoidance of operative interference whenever it is possible, and that, when surgical intervention becomes imperative, the preservation of an organ, or a portion of one, which may be free from disease and able to functionate, and whose integrity is so important to the woman, should be looked on as the height of generologic skill. The conclusions he has reached in the treatment of gynecologic cases are: Treat the case expectantly as long as there is the slightest chance of recovery. When operation is imperative save all the organs or parts of organs possible. A conservative operation is not necessarily an incomplete operation. Remove all the organs, or parts of organs that are so diseased that to save them would necessarily expose the patient to the dangers of a second operation. Except in extreme cases, or in those near or past the menopause, save the patient her function of ovulation or, at least, leave her some part of her ovarian tissue to avoid the psychic disturbances which follow the total ablation of these organs.

The Mental State of a Woman Afflicted with a Tumor of the Orbit, Compressing the Frontal Lobes.—Gurrieri (Bollettino delle Scienze Mediche) says that it is a generally accepted view that the centers for the higher psychic functions are situated in the frontal lobes. According to Bianchi, the phenomena most frequently observed in

traumatism or in pathological lesions of the frontal lobes consist in a profound alteration of the moral character of the subject, who becomes selfish, erratic, impulsive and shows marked antisocial tendencies.

He reports a similar case, which apparently supports Bianchi's view. The patient, a woman 48 years of age had always been known to be of irreproachable character, though of somewhat nervous disposition, until within the past few years, when she committed forgery and several times pursued her husband and relatives with deadly weapons. The woman was incarcerated and during the medical examination a tumor of the right orbit was found. The patient stated that it had commenced 12 years previously as a small prominence at the superior and external angle of the orbit. The tumor had lately caused her much pain and had increased rapidly in size. It continued to grow until the eyeball was invaded and a new mass appeared in the temporal region. The patient was operated upon and it was found that the tumor, an adenocarcinoma, larger than a hen's egg, had destroyed the eye, the walls of the orbit and compressed the frontal lobes.

Muscular Work.—Palmen (Skandinav. Arch. f. Physiologie) took a long series of ergograms before and after practice and found that not only does the total output of work increase with practice, but also the capacity for prolonged work. An increase in the volume of the muscles and also of the tendons occurs after training, along with changes in the nervous system. Moderate tobacco smoking facilitates at first the output of work, but rapidly this diminishes, and the diminution is most marked in cases where the musculature has been previously fatigued.

The total amount of work for a given height of lift diminishes proportionately with the increase in the weight lifted, and the same holds good in experiments with a constant amount of work per second when the height of the lift is correspondingly varied. The total work for any given weight increases as the intervals between the acts are increased; that is to say, the smaller the amount of work per second. For the performance of equal amounts of work per hour with different weights, the intervals between the lifts must increase as the weight increases. The most favorable resting pause (five seconds in the case of the author) between the working periods corresponds with the quickest rate at which the work for a given weight can be carried out which produces no sign of fatigue.

The author draws certain theoretical conclusions from his investigations. There are

two factors which play a part in so-called muscular fatigue, the true "muscular" fatigue, which is the more prominent when large weights are lifted, and the other a "toxic" fatigue of the central nervous system, which is more evident with smaller loads and a more rapid working rate.—*Edinburgh Medical Journal.*

On Atony of the Caecum and Related Conditions.—Under the above title Fischler (*Munch. med. Wochenschr.*) discusses the explanation of a group of symptoms which are frequently erroneously contributed to chronic appendicitis and for which the appendix may be removed without relief of the trouble.

The condition is characterized by intermittent pain in the caecal region, sometimes coming on spontaneously, sometimes elicited by palpation; by an air-cushion-like swelling in the same region, in which gurgling and pain are produced by deep pressure; and by irregularity in the movement of the bowels, constipation or diarrhoea, or the one alternating with the other, being present. The condition may be differentiated from appendicitis by the absence of muscular resistance or rigidity, the absence of fever, leucocytosis, increased pulse-rate, and furring of the tongue. The symptoms have been variously attributed to appendicitis, undue mobility of the caecum, torsion with dilatation of the caecum, and dragging on the peritoneal attachments of the caecum when full of faecal material. Fischler believes from his observations that the condition is due primarily to catarrh, associated with an atonic condition of the caecal wall. The importance of recognizing the condition lies in the fact that surgical treatment is unsatisfactory. Fixation of the caecum and short circuiting alike give bad results, and the best results follow careful avoidance of food which gives rise to flatulence, avoidance of strong purgatives, massage of the caecal region, the application of hot moist compresses, and occasional courses of bismuth.

Radiotherapy and the Artificial Menopause in the Treatment of Fibroma and Hemorrhages at the Menopause.—Oudin and Zimmern (*Jour. de Med. de Paris*) believe that we have in radiotherapy a method of treatment of the hemorrhages of the menopause due to sclerosis, or to fibroma uteri which is most successful in relieving the hemorrhages and the pain and often results in a reduction of the size of a fibroid tumor. They think that radiotherapy acts mainly by its sterilizing effect on the Graafian follicles, which leaves the action of the internal secretion intact. A premature menopause may be induced when de-

sirable by a few x-ray applications which will relieve the patient from several years of suffering and disability due to hemorrhage and pressure symptoms. Faber found in the center of irradiated fibroids nests of cellular destruction and necrosis produced by the rays. The muco-purulent discharge of the menopause and the swellings of the legs and feet are also relieved. Menstruation diminishes gradually. Young fibromata are much more easily affected by the rays than hardened ones in which the cells are all of the adult type.

Echinococcus Pelvic Disease in Women.—Abadie and Feyguine (Revue de Gynecologie, Paris) have found that echinococcus cysts, single or multiple, have often proved misleading in the diagnosis of gynecologic disturbances in their practice at Oran. Such cases are comparatively frequent and they urge others to bear this possibility in mind without waiting to have it impressed on them by some blunder in diagnosis. They report five cases of pelvic cysts, one a retrovesical cyst, taken for a uterine fibroma or ovarian cyst. In the second case the echinococcus cyst was in the right broad ligament, in the third there were numerous cysts scattered over the peritoneum: the area of the omentum involved was resected and a formaldehyde solution injected into the largest cysts on the lesser omentum. The general health was fairly good afterward for two years although the cysts continued to develop slowly. The patient declined further operative measures and died four years after the first intervention. The fourth patient had cysts scattered over the peritoneum with much ascites. No operation was attempted. The fifth patient was a young woman with cysts in the peritoneum probably secondary to one in the liver. Two operations were performed but proved unable to arrest the fatal termination. Their patients were from 21 to 30 years old, with one of 61. They review also thirteen cases from the literature, including two from Russia. Cysts in the pelvis and omentum are readily resected, and repeated operations may cure in apparently hopeless cases (Deve and Morestin). The precipitation test may clear up a dubious diagnosis but the deviation of complement test is more exact.

Microscopic Examination of the Bile for Diagnostic Purposes.—In a recent issue of Wiener klinische Wochenschrift, Petry relates the finding of microscopic fragments of gall-stones in the bile in cholelithiasis, and thinks it possible that this means of investigation may render valuable service. It is easy to see from the charac-

teristics of the microscopic stones whether they are minute, independent concretions or splinters knocked off from the rubbing together of large stones. He obtains fresh bile for the purpose by siphoning out the stomach content half or three quarters of an hour after the patient has ingested in the morning, fasting, 200 c.c. of olive oil at room temperature. Boldyreff announced in 1904 that oil taken in this way causes the pylorus to open and bile and pancreatic juice then flow into the stomach. Volhard applies this method to obtain pancreatic juice for examination, and Weber in 1908 found it useful to determine the presence of typhoid bacilli in the bile. Petry was able not only to detect the presence of microscopic concretions in the bile in cholelithiasis, but he found characteristic liver cells in the bile obtained in this way in six hares with chronic phosphorus poisoning. This suggests the possibility that liver affections may be diagnosed in this way in dubious cases. Since last summer Petry has been testing with the oil breakfast every patient suspected of cholelithiasis. In the first four cases nothing pathologic could be detected in the bile, but in the fifth case the bile contained minute independent concretions exactly like the large gall-stones found at the laparotomy. He gives illustrations of the microscopic findings in various cases, and discusses the differential significance of pathologically altered leukocytes in the bile and also of cholesterol crystals.

Auto-Intoxication with Acids.—Porges (Wiener klinische Wochenschrift) assistant at von Noorden's clinic at Vienna, where the subject of acid auto-intoxication has been especially studied, has reviewed the various forms of intoxication and the various acids involved, as well as the various factors responsible for the accumulation of acid. The latter may include a deficiency of alkalies or insufficiency of the organs whose task is to eliminate the acid, as well as over accumulation of the acid. Acidosis is a more common occurrence than has been hitherto recognized, he declares, and it has one pathognomonic sign, namely, increased functioning of the lungs, hyperpnea, the lungs drawing in more breath at each inhalation or the respiration becoming more frequent. Recent research has shown that the respiration is controlled by the acidity of the blood, the respiration center being peculiarly sensitive to acids. It is probable, he declares further, that the respiration is a means of regulating the acidity of the blood; the lungs by eliminating carbonic acid thus strive to maintain the balance of acidity by throwing off the excess of acid in this way.

The increased respiration is thus a sign that the organism is striving to compensate commencing acid intoxication by throwing off increased amounts of carbonic acid. The hyperpnea has the further consequence that the tension of carbonic acid in the blood declines, and this, too, may prove useful in early detection of acidosis. The abstract research recorded thus permits greater certainty in our therapeutic measures. When the physician is confronted with a patient in coma and there are no anamnestic data, and nothing to explain the coma can be discovered on examination of the patient, the presence of hyperpnea discloses that the coma is due to acid intoxication, and hence that alkalies are indicated. On the other hand, the lack of excessive functioning on the part of the lungs may serve to exclude diabetic coma and coma from any acidosis. Meat and other protein foods do not induce acid intoxication but they contribute to acidosis and hence should be restricted when there are other causes suggesting the possibility of impending acidosis, as in certain forms of nephritis and in diabetes. The favorable action of this has long been confirmed by experience and the research reported explains its mechanism from another standpoint. The findings from the research enable us also to refrain from inflicting unnecessary dietetic restrictions on our patients, as the organism has means at its disposal under ordinary conditions to render harmless the acid elements of meat.

Rhizotomy for Tabetic Gastric Crises.

—Foerster (Therapie der Gegenwart) relates his experience with resection of the posterior spinal nerve roots in cases of tabes with gastric crises of such extreme intensity that the inanition and morphia poisoning were driving the patient into the grave and all other measures had failed to relieve. Only under these conditions does he consider operative treatment. The aim is to resect the sensory gastrointestinal fibers of the sympathetic nerve, and this may require resection of the roots from the twelfth to the fifth dorsal or even higher; the few failures in the twenty-eight cases on record to date were undoubtedly due to the fact that too few roots were resected. It may be possible to determine beforehand, he says, exactly the roots requiring resection by careful study of the location of the pains and localization of the superficial hyperesthetic zones. Guleke found in one case that the crises recurred after resection of the seventh to the ninth roots but then vanished permanently when the tenth and eleventh roots were further resected. There is always a possibility that the crises may

be due to the vagus or to direct irritation of the vomiting center in the medulla oblongata, in which case rhizotomy of course would not relieve. There have been only three deaths from the intervention although the patients were all extremely debilitated and their resisting powers at a low ebb from morphia addiction. Paraplegia of the legs, paralysis of the bladder with cystitis, and pains in the legs have followed the operation in a few instances, but proved transient except in Nonne's case in which the paraplegia of the legs seems to be permanent. These troubles are probably the result of operative injury of the spinal cord or of leakage of blood into the dural sac below or possibly of the draining away of the spinal fluid from the dural sac during the operation and afterward if the pelvis is raised. If the blood-supply of the spinal cord is interfered with, paralysis may likewise result. Another transient symptom is a certain atony of the abdominal walls with more or less meteorism. Many of the patients have been restored to comparative health and enabled to return to business.

Labor an Anaphylactic Process.—Sauerbruch and Heyde (Munchener medizinische Wochenschrift) have reported experiments with a gravid and non-gravid rat sutured together in parabiosis. The gravidity did not seem to be affected and both animals apparently thrived until, a few hours before the gravid animal cast its young, the other suddenly developed serious symptoms, apathy or tetanic cramps or spasms resembling those of uremia. These experiments suggested that the fetal serum had acquired toxic properties which induced the disturbance resulting in expulsion of the contents of the uterus, and recent experiences here reported by von der Heide apparently confirm this assumption. Immediately after birth of a child and severing the cord the reserve placental blood from it was set aside to clot. He then injected 17.5 c.c. of this fetal serum in a young woman supposed to be at term and labor commenced in three hours. A similar result followed in three other women at or approaching term, and then in six cases in which labor had commenced, but the labor pains had stopped, he injected 5 or 10 c.c. and labor started up again in a few minutes to one or two hours. One of these patients was a primipara of 30 and the period of dilatation had extended over days without labor pains, but they commenced two and a half hours after injection of 4 c.c. of the fetal serum and kept up for four hours, then ceased until the next day when they recommenced, with speedy delivery. He reports in all twenty-six pregnant women

thus treated with fetal serum, the results demonstrating, he states, that not only is labor to be regarded as an anaphylactic phenomenon, due to the action of the alien albumin in the fetal serum, but that fetal serum is an ineffectual means to promote the contractions of the uterus in case of inefficient labor pains, either primary or secondary. He adds that injection of gradually increasing amounts of the fetal serum—on the principle of tuberculin treatment—might habituate the woman to the alien albumin so that anaphylaxis would not develop and she might carry the child over term. Injection of the fetal serum into non-greignant women was not followed by any appreciable phenomena, seeming entirely inert.

Salvarsan and the Internal Ear.—Felix (Presse Medicale) reviews forty-six articles that have appeared on syphilitic lesions of the auditory nerve with or without administration of salvarsan or any preparation of arsenic. Without deciding whether the salvarsan is or is not responsible for the disturbances in the labyrinth that have been observed after its use remarks that the data cited confirm the importance of careful examination of the ear before giving salvarsan and refraining from its use in case there is evidence to show the organ of hearing and equilibration was impaired before the patient had contracted syphilis. The occupations which predispose to ear disturbances, such as boiler-making, and a history of an old internal ear disease, should positively exclude the patient from salvarsan treatment, and the greatest caution is necessary in employing salvarsan if the patient has been taking arsenic for some time in any form. The author reports a personal case in which a young man became suddenly deaf, with tinnitus and vertigo, two weeks after an injection of salvarsan, the sixth week after contracting syphilis. It was learned that the young man for several years had been slightly deaf in one ear. In another case, years before salvarsan had been heard of, a patient developed deafness and tinnitus three weeks after infection with syphilis; Delsaux has reported a similar case one month after the primary sore; Rozier has reported a case in which the primary sore and the labyrinthitis developed almost simultaneously; Stumpke two with an interval of four and five months; Politzer reported in 1901 a case in which the interval was only a week, and Habermann in 1896 reported sixty-six cases of syphilitic labyrinthitis with intervals of only three to nine week between the primary sore and the internal ear trouble in sixteen. All of these cases preceded the discovery of salvarsan.

The Clinical Value of Diathermie.—

Nagelschmidt (Deut. Med. Woch.) says that there are separate and distinct effects to be noted. First, destruction and death of the tissues. Second, increased function and vitality. To effect the first we must heat the parts to the point of coagulation. To gain the second we heat the tissues so lightly as to make it barely possible to measure the increase in temperature. The first group includes the surgical uses. Theoretically tumors of any size can be coagulated. Practically, we make use but rarely of a deeper action than 1 or 2 cm. because of the necessity of avoiding injury of some important organ, a nerve, blood-vessel, a loop of intestine or a ureter. One layer is coagulated at a time, and removed by a dull curette before proceeding to the next layer.

This method enables us to do the smallest as well as the largest operations without the loss of any, or but little blood.

Angiomas of the mucous membrane, which might lead to severe hemorrhage and suffocation of the patient, can be destroyed without the loss of a drop of blood. In the case of infected masses such as a cauliflower growth of the cervix, or a hypertrophied tonsil filled with streptococcic pus, or intraperitoneal streptococcic glands, we can coagulate the tissue with its infectious contents, kill the bacteria and destroy the toxins and then remove the harmless sterilized mass. When a cancerous mass is operated on by means of the knife it is impossible to prevent the inoculation of freshly opened healthy lymphatics and blood-vessels with cancer cells.

One great advantage of a diathermic operation is the coagulation of lymphatics and blood-vessels making it impossible to disseminate the cancer cells.

Many cases which would be inoperable with the knife are still possible with diathermy: for instance, a carcinoma en cuirasse with hundreds of carcinomatous nodules spread over the thorax. In such cases it becomes possible to diathermatize the diseased parts and save the intervening healthy tissues. A point of importance to be noted is this:

If we apply a surgical electrode the coagulation occurs first in the immediate vicinity of the electrode.

Under the coagulated layer is another thoroughly diathermatized one. This is not heated to the point of coagulation. This layer presents certain features which are of very great importance for the medical uses of diathermy.

This tissue shows marked stimulation of all its functions. Glandular tissues secrete more strongly, capillaries are dilated, caus-

ing a prolonged hyperemia, at the same time an intense lymphorœa occurs which washes away the toxins, bacteria and cancer cells.

Marked hyperemia of the tissues surrounding the field of operation together with great œdema and abundant serous exudation follows the operation.

This makes it next to impossible for even large wound surfaces to become reinfected. Secondary hemorrhages rarely occur. The cancerous cachexia disappears quickly.

The application of diathermy in the treatment of internal diseases is of possibly still greater importance. It is possible to warm the kidneys, the liver, the brain, in fact any organ without injury to the skin.

Or we may cause a rise of temperature of the entire body by a generalized application. This warmth is transmitted to every cell, to every granule of protoplasm, to every molecule of the diathermatized tissue. This warming means an addition of energy from without and the production of a number of secondary effects.

Increase of metabolism, slowing of fermentative processes, increased functions. All this is accomplished not by the use of reserve energy stored in the body but by reason of the increase of energy which is brought into the body from without and distributed to the interior in immediately utilizable form.

We also have local hyperemia of long duration and arterial in kind.

Glandular organs show visibly in increased secretions, other organs show heightened functional activity.

We reorganize a marked effect on the general circulation.

The arterial tension is lowered, the amplitude of the pulse is slightly raised. The circulation is regulated, intensified. Edemas disappear, in cardiac as well as renal affections, neuralgias, sciatica, lumbago, migraine, the lightning pains and crises of tabes are favorably influenced by the pain relieving action of warmth.

The antiphlogistic action is shown in pyorrhœa alveolaris in pneumonia and pleurisy.

Gouty joints are relieved of pain in a very few minutes and of swelling in a few days. Recurrences are postponed for a long time. Rheumatic and gonorrheal arthritis are favorably influenced.

Some cases of chronic nephritis were improved; fifteen cases of nervous asthma were treated, thirteen of these are free from attacks for two years.

In two cases the improvement was temporary.

Contagiousness of Scarletina.—Szin-tagh (Kinderheil) compares the abortive cases of scarlet fever in which there is no eruption, the cases of acute nephritis without previous eruption or fever, and the cases of so-called simple angina, all of which may be manifestations of the work of the scarlet fever germ, or its association with streptococci, or other bacteria. The writer says that these are all manifestations of a single cause. Epidemics of suppurative tonsillitis are frequently coincident with scarlatina; purulent throat affections frequently occur in epidemics. Parents of scarlet fever patients frequently suffer from anginas while the children are ill. An intensely contagious disease like measles acts differently. Polyarthritides and endocarditis occur both in scarlet fever and in angina. They are not benefited by anti-rheumatic treatment. He thinks that the local and general conditions determine the occurrence of scarlatina in the individual more than the contagiousness of the disease.

Pathogenesis of Osteomalacia.—Cristofletti (Gyn. Rund.) after a careful study of the theories and experiments with reference to the causation of osteomalacia, gives his conclusions as follows: Osteomalacia is due to a lowered function of the chromaffin system through disturbances of the secretion of the glands of internal secretion. The immediate cause he sees in the persistence of the function of the ovaries during pregnancy, while in pregnancy normally there is an abeyance of this function. If there is placental function accompanying the persistent ovarian function there results an inhibition of the chromaffin system, leading to a lack of function of the calcium metabolism and the nutrition of the bony system. Adrenalin therapy does not cause retention of calcium still it acts favorably on some symptoms. Castration may possibly cure osteomalacia. By the sympathetic action on the ovarian function there is an increase of the chromaffin function, and thus an influence on the blood glands. Castration combined with phosphorus treatment is the only means of combatting osteomalacia.

Indications for Operation in Pyloric Stenosis in Infancy.—Monsarrat (British Journal of Children's Diseases) says that no explanation possessing a satisfactory basis other than that of muscular hypertrophy consequent upon spasm has yet been offered for this important lesion. The circular fibers of the pylorus show hyperplasia. They are increased in number and are also stouter than normal. This change is often so marked that it presents as a tumor when the abdomen is examined by hand. As a result the pyloric orifice is narrowed to

minute dimensions, and apart altogether from any condition of spasm of the hypertrophied muscle, we have a mechanical obstruction to the onward passage of the stomach contents. A large proportion of the children suffering from pyloric spasm respond to medical measures to such an extent that it is found possible to feed them sufficiently.

He holds that a period of seven to ten days is sufficient to show definitely whether medical measures are going to achieve their purpose. The vomiting and fluctuations in weight are phenomena of which an accurate record can be kept, and which are indicative. The operation of choice is posterior gastroenterostomy.

Inflammatory Tumors Producing Intestinal Obstruction.—A. Primrose, Toronto (Interstate Medical Journal, Sept.) reports four cases of abdominal tumor of inflammatory origin, three of which probably had origin from a chronically infected appendix or sigmoid diverticulum, the fourth developing as the result of post-partum infection. The first case was in a man of 47 with almost complete bowel obstruction, who had a mass filling the pelvis and extending into the left iliac fossa, which was diagnosed rectal carcinoma. In opening the abdomen, the appendix was found imbedded in the mass. This was removed and an inguinal colostomy attempted but found impossible on account of a short mesentery. The bowel was then divided transversely and a Paul's tube secured in each end. Three weeks later a portion of the mass was removed through the rectum and pronounced purely inflammatory by the pathologist. Three months later the tumor had largely disappeared and the rectum which before barely allowed the passage of a No. 10 E. catheter now easily admitted a bougie one inch in diameter. An end to end anastomosis was done at the seat of the colostomy and the patient was restored to public health. In the second case, a girl of 22, the tumor resembled sarcoma arising from the left iliac bone. The appendix had been removed for acute infection five months before. The tumor was separated from the ilium and found to involve the sigmoid. A portion of the mass was removed and reported by the pathologist to consist solely of inflammatory tissue. Following operation, a fecal fistula developed which closed spontaneously. The tumor slowly disappeared and four months later the patient was perfectly well. The third case, a woman of forty-five, had in the previous year and a half, six attacks of acute pelvic peritonitis. There was almost complete bowel obstruction. A mass was

found in Douglas' pouch in which was imbedded the appendix and a loop of small bowel acutely kinked. The appendix was removed, and a much injured portion of the small intestine resected. Complete recovery ensued. In the fourth case the mass developed following a puerperal streptococcus septicemia. Intestinal obstruction occurred and necessitated two operations. Obstruction again developing, a Paul's tube was inserted in the ileum. Later the fistula was closed by plastic operation and recovery followed.

On Massage of the Heart in Cardiac Arrest During Anaesthesia, with Notes of a Successful Case.—Miles (Edinburgh Medical Journal) says that the operation to which the patient was subjected was an abdominal section for ulcer of the duodenum. The anaesthesia, for which chloroform was used, occupied about thirty-five minutes, when the movements of respiration stopped, the oozing from the divided vessels ceased, the face became deadly pale, and the pupils dilated widely. The pulse at the femoral was imperceptible, and the patient was to all intents and purposes dead.

He then undertook the resuscitation of the patient as follows: "The peritoneal suture was unlaced sufficiently to admit my right hand into the abdomen, and with it I grasped the heart, which was felt through the relaxed diaphragm as a large, firm object having a consistence very like that of the liver. It was perfectly still. After squeezing it firmly once or twice I recognized that it was being emptied, as it became softer and more flaccid, but no contraction of its muscle could be detected. The right hand was then withdrawn, and the left introduced and laid flat against the heart, while with the right hand firm pressure was made over the lower part of the chest, and it was at once evident that the compression of the whole heart was being effected more satisfactorily. After several compression movements had been made a faint tremor was felt in the heart muscle, and after a few more a series of small tumultuous contractions took place. These were repeated several times before the heart began to beat rhythmically. At first there were several regular forcible beats, followed by a number of small inco-ordinated contractions, but gradually the beat became fuller and more regular, although it was abnormally slow.

"With the restoration of the circulation the other alarming symptoms passed off: the pupils became smaller, the conjunctival reflex returned, the muscles became rigid

again, and in a few minutes the danger was past.

"On the night of the operation the pulse was 106—the highest point it reached during the convalescence. The patient made a normal recovery and is now in good health."

New Researches on Nongonococcal Ophthalmia in the Newborn, "Ophthalmia by Inclusions."—Morax (Ann. de gyn. et d'obstet.) states that there is a form of ophthalmia neonatorum which is not of gonorrheal origin, yet is produced by vaginal inoculation of the infant's eyes during labor. This disease is of a nature similar to trachoma, in that there are granulations or inclusions of epithelial nature under the conjunctiva of the lids. The prognosis of this form of eye trouble is good, since it disappears spontaneously after a month or six weeks, without ulceration or scarring, but no treatment applied to it seems to be of much value as a curative agent. The best method of investigation of this form of ophthalmia has been found to be the inoculation of the eyes of monkeys with the poison. From these examinations he has concluded that there is a special form of inflammation of the urethral, utero-cervical, vaginal, and ocular mucosa which may be transmitted to the eye of the new-born child. Out of 119 cases of ophthalmia of all kinds Lindner found fifty-three of this form of ophthalmia, showing that it is not rare.

The Clinical Diagnosis of Early Tabes Dorsalis with Negative Wassermann Reactions; A Case where Reaction Became Positive Only After Salvarsan.

Comments upon Salvarsan in Pretabetic States. Virginia Medical Semi-Monthly, April 21, 1911. Medical Press and Circular, August 30, 1911.

Discussion of differential diagnosis of the case of a man of thirty having chronic radiculitis, shown by recurrent pains, with loss of reflexes, viz: both achilles, one patellar and one gluteus, and diminution of one patellar, one gluteus and bulbo-cavernosus; deep hyperaesthesia and hypotonia of lower limbs; hyperaesthesia of left cutaneous radicular distribution of S2 and right L4.5 and S1.2. There was no iridoplegia Romberg or other ataxia, nor a diadochokinesis. The seroreaction was negative for three months; but became weakly positive after ten weeks cessation of treatment by intramuscular injections of 1 per cent. mercuric chloride 15 min. every other day for six weeks, which caused great improvement, the pain ceasing for nearly two months. After salvarsan (intravenously),

the seroreaction became more intense and amelioration was only slight. A second mercurial course improved him, and a second dose of salvarsan increased the weight 8 per cent. and abolished the pains for three weeks. After relapse mercury was resumed later with less effect than formerly.

Two other cases are still free from symptoms, and the seroreaction is negative four and four and a half months respectively (now 8 and 8½ months) after salvarsan intramuscularly.

So far all the author's cases where salvarsan was given intravenously have relapsed. These will be studied in a later publication.—Author's Abstract.

Labyrinthine Meningitis.—Stacke (Deut. Medizin. Wochen.) tells of the good prospects for operative treatment in meningitis propagated from the middle ear by way of the labyrinth. Since we have learned to detect functional disturbances in the labyrinth, especially in the vestibule, it is no longer difficult to diagnose these cases in their incipency, detecting them in the phase of suppuration in the labyrinth, the diagnosis facilitated by the findings on rachicentesis. The latter shows whether the dura will have to be incised. A deep abscess may form in the cerebellum instead of diffuse meningitis developing, in which case the incision will have to be carried into the cerebellum. Alexander has reported a case thus cured, Wittmaack two, and Stacke here reports the details of another. The last patient was a woman of 34, cured by the operation, which put an end also to the chronic ear affection. Stacke emphasizes the importance of lumbar puncture in ear disease, the findings not only revealing intracranial otitic complications by the composition of the fluid, but also by the pressure. With repeated lumbar puncture he has been able to detect and operate for an intracranial complication before serious harm had been done, and also to refrain from operating in dubious cases in which the course proved the correctness of the conclusions drawn from the normal cerebrospinal fluid. He has never witnessed the slightest harmful by-effect from lumbar puncture, and it gave the clue to successful treatment in the case reported; the cure has been complete for two years to date. Vomiting is one of the gravest symptoms when it comes on with a suppurative ear disease, especially when accompanied by vertigo, fever or intense headache. Rachicentesis should be done at once. He regards the radical operation as indicated with these symptoms even when the fluid is clear, but if the severe symptoms do not promptly and permanently subside, the labyrinth should

be operated at once, and repeated lumbar puncture will permit an oversight of conditions as the cure progresses. Success depends on the promptness of the intervention.

Progress in Surgery.—Lloyd (British Medical Journal) retraces the advances made in surgery, speaking more particularly of exploratory operations, kidney and stomach surgery, appendicitis, colostomy, cecostomy, prostatectomy and herniotomy. Speaking of gastric surgery he says that precision in the diagnosis of many stomach diseases can be secured only by exploratory incision, and that earlier resort to this procedure in many cases is very desirable. When pyloric obstruction is present, as evidenced by periodic vomiting, treatment by posterior gastrostomy is eminently and uniformly satisfactory. Pain in such patients may be absent altogether. When vomiting is absent or only occasional, and pain is the symptom for which a patient seeks relief, gastro-enterostomy has its failures. Acute ulcers of the stomach, except when perforating, do not demand surgical treatment; chronic ulcers, on the other hand, do; but what that treatment is to be he is uncertain. Some should be excised, some are cured by gastro-enterostomy, some should be infolded, and possibly some should be left alone by the surgeon. Operations for gastric carcinoma are at the present time unsatisfactory, probably owing to their non early recognition. Dilated stomachs, in the absence of associated lesions such as pyloric narrowing or ulceration, may be left unoperated on. Gastric hemorrhages are not to be dealt with satisfactorily by surgical operation. They do better in the hands of the physician. Duodenal hemorrhages, too, are not readily amenable to surgical treatment. Gastro-enterostomy does not meet their urgent indications, although it may contribute to the healing of the ulcers in which the bleeding originates. Chronic duodenal ulcer is a pathologic fact; it is no mere surgical apparition as is sometimes suggested. Its frequency in adult males is remarkable; its diagnosis prior to exploration is highly probable, but by no means sure; its recognition at the time of operation is certain, and its relief by operation is most satisfactory. In Birmingham cancer of the stomach does not appear so often as a sequel of chronic ulceration as it is said to do in many other places. The majority of patients with cancer of the stomach give no account whatever of long-standing or of past indigestions. It appears usually as a primary indigestion in the middle aged or elderly, and in all such patients Lloyd agrees that by the failure of medical treatment quickly to relieve such indigestion, a

suspicion of cancer should be aroused and an exploratory operation at once performed.

As for herniotomy, he says that the most important step of the operation has to do with the sac of the hernia. The neck of the sac should not be ligatured, but the peritoneum beyond the neck, and when this has been done and cut across below the ligature, it matters little whether the sac is removed or not. The closure of rings and canals is said to be a matter of secondary importance; in Lloyd's opinion it should always be done, except in the inguinal hernias of very young children, and well done, too. The author is performing regularly both suprapubic and perineal prostatectomy, and finds that each has its merits, and that neither can claim to be the better for all cases. The suprapubic operative mortality is rather the higher in his hands, probably because the more serious cases have been dealt with by this method. The after-results of both operations are then about the same. Prostatectomy for carcinoma and tubercle has been disappointing in his hands.

Bone Grafts in Restoration of Tibia.

Poncet, in *Presse Medicale*, reports the excellent outcome twenty-five years later in a case in which the right tibia was almost totally destroyed by a rapidly acute osteomyelitis. The patient was a boy of 13 and a month after resection of the diseased shaft for an extent of nearly 12 inches, leaving the periosteum intact except for a gap above and below, Poncet introduced flaps of bone tissue with periosteum taken from a healthy newly born infant who had succumbed during breech delivery. The scraps were 7 or 8 mm. long by 3 or 4 thick and they were implanted deep among the granulations at the points where the periosteum was lacking. Five out of eight flaps "took," and two weeks later a new series of bone grafts was made with bones from a kid. All the bone scraps together covered an area at each end of the shaft 4 cm. long by 4 or 5 mm. thick. The wound did not heal completely till the fifth month, but the bone regenerated with the aid of the grafts so that the diameter of the two legs scarcely differs. By the end of three months there was a difference in length of only 3 cm. between them, but this difference increased so that now, twenty-five years later, the difference is 8 cm. as the other leg has grown more in length than the right, but both legs are equally strong and look alike and there is complete restoration of function while radioscopy shows a satisfactory outline of the new tibia. The patient is now a robust man of 38. One secret of success is to keep the patient under observation for a long

time after these grafts of bone in the midst of granulations; the granulations supply the nourishment and other conditions which insure success.

Heart-Beat and Pulsus Alternans.—Windle (Quarterly Journal of Medicine, London) says that in all cases except one, observed by himself, there was no alternation present in records taken from the clinical apex beat, while in all disparity in force of alternate radial pulses was decided, and at times extreme. In the exceptional case the stronger beat of the heart-curve coincided with the weaker of the pulse. It is suggested that this anomaly is explicable on the assumption that the musculature of the ventricle producing the apex beat is not a part of that which drives the blood out of the left ventricle, otherwise it is inexplicable that the stronger beat of the ventricle should cause the weaker pulse, or that ventricular contractions equal in strength, beat by beat, should cause an alternating pulse. In two patients the heart's pulsation was recorded from two distinct areas: (a) In one case the cardiograms have the character of a left and right ventricular impulse, respectively. The radial pulse was markedly alternating; but there was no evidence in the cardiograms of variations in strength of the ventricular contraction. (b) In the other case pulsation was recorded from the clinical apex-beat, and also from the fourth left intercostal space about $1\frac{1}{2}$ inches from the left edge of the sternum. The cardiogram from both situations had the characters of left ventricular pulsation; that obtained from the fifth space at no time showed alternation in force. The cardiogram from the fourth intercostal space continuously alternated, except for brief periods.

The relationship between the alternating beats of the cardiogram and those of the radial pulse were not constant, the height of the respective waves being at times opposed, at others similar; at others, again, alternation was present in the heart-beat curve, whilst that of the radial pulse was equal; the reverse relationship occurred. Alternation was often pronounced in records of the jugular pulsation of this patient; invariably the higher wave corresponded to the higher wave of the radial pulse. In curves having character of right ventricular pulsation no evidence of alternation was present at any time. No variation in the intensity, pitch or duration of the heart-sounds or murmurs coincident with alternation of the pulse was detected in any case. While the observations lend some support to the view of Hering, that in alternate heart-beat a partial systole of the ventricle occurs, they also show that in alternating

pulse it is not always possible, in clinical cases, to determine the fact of alternating heart action.

The Origin and Treatment of Flatfoot.

Ewald (Klinisch-therapeutische Wochenschrift) says that one-third of all city school children examined by him have flatfoot, and one-third more have a more or less broken-down arch. The reasons that so few persons with flatfoot consult the physician are, in the first place, that not all flat feet are painful; and in the second place, on account of the cost of going to the doctor many turn aside to the dealers in orthopedic apparatus, and to the shoemaker. Furthermore, in many cases of flatfoot the physician makes a wrong diagnosis of rheumatism, gout, or even lues or tuberculosis. It must be kept in mind that only a slightly broken arch may give rise to very serious pain and disability.

A flat or broken arch may become painful through long standing, as in the case of apprentices and shopkeepers; from increase in body weight, as from obesity or pregnancy; from injuries, as trauma to the foot or leg; from resumption of use after long illness.

Studies in the skeleton, at autopsy, and by means of the Roentgen rays show that the pain results from displacements in the relative position of the various foot bones, especially at the calcaneo-astragaloid and the calcaneo-cuboid joints, as a result of which there is set up an inflammation and osteophytes are produced. These conditions may exist a long time without pain, but if a predisposing cause supervenes, pain is engendered.

Radium and Cancer.—Morton states that some varieties of cancer are much more responsive to radium than others. With few exceptions it is in the slow growing cases that it acts best, and in which a diminution in size may be expected. Unfortunately we have no statistics of the number of cases in which it fails. That failure occurs not infrequently even with large quantities of radium is well known. We know also that it does not always cure the comparatively benign rodent ulcer or prevent its recurrence. At present the position of radium therapy seems to be of undoubted value in many cases, its chief function is in aiding and not in excluding the other recognized methods of treatment. Until it can be proved that relapse and metastasis are not more common after regression from radium than after excision, the method must be reserved for those cases in which operation is contraindicated and for recurrences. Apart from the question of the curative effect of radium, there is one point of practical importance which

deserves attention. It is that in the case in which radium acts beneficially it acts at once. Within fourteen days of the beginning of the treatment an unquestionable diminution in size will be found in all cases in which radium is able to exert a regressive effect. Occasionally this decrease is seen as early as the third day. If no improvement is apparent in this time further treatment is useless, except, perhaps, for its palliative effect. There appears to be no other certain means of fortelling in the individual case the result of radium treatment and he has found this test application very useful in determining the advisability of a prolonged and necessarily expensive course of treatment. It will be of still greater value if radium fulfills expectations and its results are found to be permanent, in deciding the question of operation.—British Medical Journal.

Quinine and Blackwater Fever.—Avery (London Medical Lancet) states that the patient, a resident in the Barberton district, had contracted malarial fever in November, 1909, and had suffered from relapses during the year following. In November, 1910, he fell ill with general malaise, headache, anemia, nausea, and bilious vomiting; at the beginning of December blood appeared in the urine, and he went into hospital at Newington. The presence of hemoglobin was demonstrated by the spectroscope, but after three days the oxyhemoglobin bands were replaced by the broad band characteristic of urobilin, which persisted for a fortnight. Albumin was present for a few days, then fell to a mere trace, but reappeared together with the oxyhemoglobin for a few days. There was enlargement of the liver and spleen lasting for a fortnight. Jaundice was a prominent symptom in the first week of the illness, and obstinate constipation continued throughout five weeks. No malarial parasites were detected in blood films, two of which were examined at intervals of a fortnight. Quinine was purposely withheld during the first three weeks on account of the absence of malarial parasites in the blood films and of the presence of blood in the urine. It was then administered as bi-hydrochloride, in gradually increasing doses, until as much as 30 grains were given, without favorably influencing the course of the fever, which, however, came to an end.

The author refers to the confusion that exists with regard to blackwater fever. There are three principal theories as to its etiology: (1) that it is due to malaria; (2) that it is due to quinine; and (3) that it is a distinct specific disease. He does not believe that it can be due to malaria, for the doses of quinine that are sufficient to influ-

ence favorably such cases were of no material benefit in the case reported. Neither does quinine appear to have been a possible cause in the present instance, for hemoglobinuria did not occur until ten days after all quinine had been stopped. He thinks, however, that quinine may cause exacerbation of symptoms if persisted in for some length of time, blood or some hemoglobin derivative being excreted in the urine. Avery inclines to the third view, that blackwater fever is a separate entity. The argument that no parasites other than those of malaria have even been detected in blood specimens in this disease up to the present does not disprove it. Cases of this disease occur in out-of-the-way places where facilities for laboratory research are absent. All the more value, therefore, attaches to detailed clinical records such as have been carefully kept in the present case.

New Operation for Hemorrhoids.—In the Australian Medical Gazette Chenhall gives the following method for this operation:

Each pile is grasped in a pair of long, light, slightly-curved forceps, care being exercised to close the blades just within the mucocutaneous margin and their points on the main vessel in the pedicle above. By drawing the forceps handles toward the lumen of the bowel, the mucocutaneous junction is rendered tense and is divided by a clean-cut knife incision immediately behind the forceps blades to the depth of half an inch. A fine, round, curved needle, threaded with No. 1 plain catgut, is now passed through both sides nearly the full depth of the incision, which is then closed in a direction parallel to the length of the bowel. This suture, when tied, serves as a tractor. Separating the tractor and forceps, the mucous membrane, now rendered tense, is divided by the knife on each side behind the forceps blades. The submucous tissues are carefully raised or divided. The next suture is now inserted. Transfixion of even small veins is easily avoided in passing the sutures, since the floor of the small wound is exposed. This cannot be claimed when sutures are passed through tissues gripped by forceps. Ligature may be, but is rarely, necessary for any vessels. Using, in succession, each suture as a gentle tractor the same procedure is repeated until the upper part of the pedicle is reached. This, which contains the main vessel, is ligatured with No. 2 catgut, divided, tucked down and buried in the end of the incision by a small catgut suture, which closes the upper end of the wound, passing in transit through the end of the incision and the pedicle ligature is rendered additionally secure. This

is most important. A long line carrying tied sutures marks the site of the original pile. There is practically no bleeding, and postoperative pain is so slight that sedatives are rarely necessary after the first hypodermic of morphia. Chenhall emphasizes that it is important that sutures be not tied unduly tight. Suppositories should never be used, a dry, sterile dressing pad being the only dressing required. The bowels, carefully prepared before operation, should be allowed to rest until the fourth or fifth day.

Miscellaneous.

Biological Test for Thyroid Substance.

Paul Trendelenburg (Biochemische Zeitschrift) continuing Reid Hunt's work on the aceto-nitril test for the recognition of small quantities of thyroid substance, investigated the effects produced by injection of aceto-nitril into animals previously treated with the blood of thyroidectomized animals. Briefly, Reid Hunt's reaction depends upon the fact that white mice fed with thyroid substance are more resistant to the poisonous action of aceto-nitril than normal white mice not so fed. This seems to be due to the fact that in the former there is a greater difficulty in the splitting off of the CH_3 group, and so the hydrocyanic acid component is more slowly set free. This is judged to be the case because thyroid-fed animals are not more resistant to free HCN than normal ones. The protection against aceto-nitril begins within a few days of the commencement with thyroid feeding, and lasts for more than two weeks. The protection can reach a high standard; thus a mouse fed for a period of eleven days with a total quantity of 20 mgrms. dried thyroid substance is resistant to twenty times the lethal dose. The degree of the protection is apparently proportional to the amount of iodine in the preparation, but it is necessary to point out that even the iodine-free thyroid substance exerts a quite distinct influence. As the author holds the view that the function of the thyroid is the neutralization of poisonous substances which form in the tissues of the body, and are carried to the thyroid by the blood, &c., he thought that these toxic products might be the substances which raised the resisting power of the animal towards aceto-nitril. The thyroid normally would contain these in a concentrated form, while the blood of the normal animal would be comparatively free from them. On the other hand, the blood of a thyroidectomized animal might be rich in these substances. Trendelenburg

thought that it might be possible to demonstrate the presence of these non-iodized toxic products in the blood of thyroidectomized animals. The method of experimentation and the results were as follows: The mice were fed for some weeks before, and also during the experiment, with oats and water. The animals were first tested to discover the minimal lethal dose of aceto-nitril. This was dissolved in fresh distilled water and injected under the skin of the back. Blood was taken from thyroidectomized cats during the period when the symptoms of thyroidectomy were best marked. The animals during this stage were lethargic, somnolent—allowing, for example, a mouse to pass over the face without making any attempt to seize it. The blood was dried in a vacuum desiccator, powdered, and made up into pills with syrup. These were given to the mice in the morning. In the control experiments, which were always carried out first of all, it was found that when 18 mgrms. (over a period of nine days) of Knoll's thyraden powder were given, the mice withstood a dose of 2.9 mgrms. aceto-nitril per gramme body-weight, while all the control animals not so fed with thyroid substance died after any dose larger than 0.57 mgrms. per gramme body-weight. The protection, therefore, was sufficient to counteract five times the lethal dose. Strange to say, Bayer's iodothylin exercised no protective influence.

Before giving the blood of thyroidectomized animals it was necessary to give the blood of normal animals. It was found that in no case after feeding with the blood of normal animals was there an increase in the resisting power towards aceto-nitril, but in Reid Hunt's experiments rather a slight diminution. On testing the effects produced by feeding with the dried blood of thyroidectomized animals it was found that the mice so treated withstood about double the lethal dose of aceto-nitril.

Trendelenburg therefore concluded that in the blood of thyroidectomized animals there are substances present which give the same biological test as the thyroid gland itself, and as the blood of patients suffering from exophthalmic goitre. It is still, however, a matter of doubt as to the nature of these bodies which are present in the blood of thyroidectomized animals as well as in the thyroid itself.—*Edinburgh Medical Journal.*

The Return from the Country.

Almost every city family, whose exchequer will permit, is accustomed to spend a goodly portion of the heated term away from home. This is both natural and salutary, provided good judgment is exercised

in the selection of the country place or summer resort, as regards its general healthfulness and sanitary environment. Unfortunately sanitation on farms and in rural communities is not always what it should be and the result is that many health and pleasure seekers return in the autumn depressed and run down or perhaps infected with malarial or typhoidal poison. In other cases, especially at crowded fashionable resorts, because of the continual round of exciting amusements, some are tired and fagged out instead of rejuvenated as the result of their summer's outing. Many are certainly in need of that general constitutional reconstruction and building up of force and resistance which is necessary to withstand the business or social strain of the fall and winter. In such cases there is no one single remedy quite as dependable as Pepto-Mangan (Gude). It increases appetite, restores strength and general vitality, reinforces the hemoglobin content of the blood and acts as a prompt and efficient general tonic and reconstituent for patients of all ages.

Prepare for School Days.

And now the little army of young humanity, after the long vacation, trips back to school to commence the long period of mental and bodily stress and strain inseparable from indoor confinement and long hours of work and study. Is it not the part of wisdom to see that they are well prepared for what, to many of them, is really a serious ordeal.

If the boy or girl (especially the girl at the age of puberty) is anemic, easily tired, pale and listless, it is certainly a good plan to correct this condition at once, rather than to wait until the condition is more serious. If the young pupil is fortified by the toning and building up of blood and tissue, the prevalent school infections, measles, scarlet fever, and diphtheria, are much more likely to pass them by. Pepto-Mangan (Gude) is especially indicated as a blood tonic and general reconstituent for children, as it is palatable, easily taken, free from disturbing effect upon the digestion, and devoid of constipating action. It can be taken for any length of time without danger of injury to the stomach, and its effect is soon noticeable in increased appetite, improved color, better spirits and increased weight.

Caesarean Section for Placenta Praevia.

Of late years a number of articles have appeared in the German journals by, among others, Kronig and Sellheim advocating the more general employment of Caesarean section in cases of placenta praevia. They base their conclusions on the apparently

better results for mother and child which they have obtained by the major operation as against those obtained by purely obstetrical treatment, such as turning and the use of Champetier de Ribes's bag. Their view of the question is contested by Couvelaire (*Ann. de Gynec. et d'Obstet.*, April, 1911). He gives the statistics of the cases of placenta praevia treated in the Clinic Baude-locque, Paris, for the period 1890 to 1910. During that time there were 162 cases so severe as to call for definite treatment during pregnancy or labor. Minor cases calling for no treatment are excluded. Of these 87 were treated by rupture of the membranes, 62 by rupture of membranes and de Ribes's bag, 7 by bipolar version, 3 by manual dilatation, and 3 by internal version. There was a total maternal mortality of 10, or 6.7 per cent. Kronig, for a similar set of cases treated in the same way, gives a mortality of 20 per cent. If the cases be excluded which on admission were in a dying condition from hemorrhage or sepsis—the type of case in which Kronig advises against Caesarean section—the mortality is reduced to 3.2 per cent. and the mortality from hemorrhage to 1.28 per cent. This is a result which will compare favorably with any similar series of cases treated by Caesarean section.

The fetal mortality in the cases where de Ribes's bag was used was 66 per cent., but a large number of the children were premature, and in them the mortality was very high. The German operators advise against Caesarean section if the child is very premature, because there is little chance of saving it. So that as far as the question of infant mortality goes, there is little to choose between the methods, and it is just a question whether the chance of saving the child can be put against the additional risk run by the mother if the abdomen is opened.

Couvelaire admits that there are cases where Caesarean section should be the operation of choice, as, for instance, in elderly primiparae with rigid cervix and in cases of contracted pelvis. He would also be inclined to include some of the cases in which the German operators advise against the operation, viz., those in which the patient is in a very bloodless condition and delivery cannot be effected without force. In these he would advise the Porro operation. In this connection an interesting case is recorded by Raymond and Cazalis (*Ann. de Gynec. et d'Obstet.*, April, 1911) in which total hysterectomy was performed for placenta praevia, the uterus being removed without opening it, for fear of further hemorrhage. After removal the uterus was opened and a living child obtained. The time elapsing between the cutting of the

second uterine artery and the opening of the uterus was about one minute.—*Edinburgh Medical Journal*.

Double Elimination.

Where the body is saturated with the waste-products of metabolism it is an important part of good medical treatment that these useless, harmful substances be thoroughly eliminated. The urinary system is a channel of evacuation, as well as the intestinal tract, and to free the system of toxic waste-products through both of these channels is a logical procedure.

Defective elimination readily becomes a chronic condition since the toxemic patient lacks that initiative which is necessary to active physical exercise. A rational therapeutic treatment must be instituted while proper hygienic conditions are being re-established. In these cases, Cystogen-Aperient performs a double service by stimulating to normal function, and by disinfecting the urinary and intestinal tracts; Cystogen-Aperient (granular effervescent salt) combines the tonic and laxative properties of sodium phosphate and tartrate with the urinary-antiseptic and solvent action of Cystogen ($C_6H_{12}N_4$).

Absence of Abdominal Respiratory Movement as an Indication of Pericarditis.

Wynter (Proceedings of the Royal Society of Medicine) has pointed out the extreme value of this sign in a condition often attended with few direct indications. The sign is always bilateral and is therefore very obvious. It is constant in acute pericarditis, especially with fibrinous exudate. That the diaphragm is really inactive in this condition can be seen by radioscopy, no contraction of the muscle being visible, and the diaphragm lies very high in the thorax. It is a valuable sign in that it precedes and also outlasts other indications of pericarditis. It explains the cyanosis and dyspnea in this disease, the former, resulting from respiration being restricted to the upper lobes of the lungs, and the latter indicates an effort to utilize the weight of the abdominal viscera to depress the passive diaphragm.

If the sign is wanting, and acute pericarditis suspected, doubt should be felt as to the diagnosis.—*Edinburgh Medical Journal*.

Consolidation of Medical Colleges.

It has been stated that the College of Physicians and Surgeons of Memphis and the Medical Departments of the University of Nashville and of the University of Ten-

nessee have united to form one medical school in affiliation with the University of Tennessee. The school will be located in Memphis and will be liberally equipped with the contributions of the three colleges. The registrar of the newly consolidated institutions is Dr. E. F. Turner, 879 Madison avenue, Memphis, Tenn.

A Decline of the Prescription.

The pendulum of therapeutic medication within twenty-five years swung from prescriptions containing eight or ten ingredients, each of which was supposed to combat some particular symptom, to therapeutic nihilism. Fortunately, however, in the last few years it has been realized that whereas the shotgun prescription loaded with an attempt to make each shot penetrate some particular point is impracticable, still the absolute ignoring of the patient's relief by medication is neither just to the patient nor ourselves and in consequence more rational therapeutic measures are being established. Hence various anti-toxins, sera, vaccines, X-Ray and other lights, hydrotherapy and medicated baths, electricity and hot air apparatus, psychotherapy and suggestion, rest and exercise and a full nutritious diet, which may be assimilated, have come into vogue and are useful when properly indicated and administered. The use of drugs is being limited to prescriptions of one or two ingredients for specific purposes, as quinine for malaria, salvarsan for syphilis, etc.

The old time tonic has almost disappeared and the regulation of the stimulation of the patient with the administration of strychnine or some other drug has taken its place. It should be remembered that a tonic is a crutch and often delays curative measures by a temporary sense of well-being. In consequence of all this the armaturium of the general practitioner has ceased to be a medical chest and requires hospital facilities and equipments as expensive and elaborate as those of the surgeon. The practitioner is no longer a man who feels the pulse and looks at the tongue and whose skill is judged by a pharmaceutical compatibility of a many drug prescription. He has to be a man skilled in methods of examination and experienced in diagnosis, a medical detective whose clues lead to a medical conviction and a therapist broad enough to call into play the use of all modern means of treatment.

One more thing may be mentioned. When the physician came to write his long prescription the pharmacist brought out his "elegant" proprietary preparations with many, many drugs suspended in a pleasant tasting concoction. These preparations had

full sway for a time because it was so easy to write for them. The therapeutic results, however, failed to justify their use and they are rapidly falling into disrepute.—Old Dominion Medical Journal.

Literature Worth Reading.

The value of heat as a therapeutic agent has been so conclusively proven that it will admit of no further argument.

The difference, however, between convective heat in contra-distinction to radiant heat is a subject in which the profession generally is interested.

Convective heat is particularly applicable in cases where radiant heat is not indicated and the reverse is quite true. Their differential thermic value is clearly set forth in the October issue of the *Bloodless Phlebotomist* along with an interesting paper by Dr. David MacIntyre, a Cunard Surgeon, upon "Drugs at Sea."

In the same issue of the *Phlebotomist*, Dr. Edward Parrish of Brooklyn, presents his methods of treating *Tic Douloureux* and Dr. Leverett of Yonkers, relates his experience in the successful handling of ivy poisoning cases, which in many instances are quite as intractable to handle as *Tic Douloureux*.

In addition to these papers, much other interesting and instructive material is given, and it is worth while to write to The Denver Chemical Mfg. Co., New York for a copy of the *Bloodless Phlebotomist* for October, which they will send upon request.

State Board Examination Questions, New Jersey State Board of Medical Examiners.

ANATOMY.

1. Describe the endocardium.
2. Give origin, branches, and parts supplied by the musculospiral nerve.
3. Name five muscles of the shoulder and arm. Give origin, insertion, and action of any one of the five.
4. Name the muscles attached to the great trochanter of the femur.
5. What are the functions of the superior mesenteric veins?
6. Mention an anastomosis between the portal and systemic veins.
7. Name, locate, and describe the largest of the cranial ganglia.
8. What nerves supply the knee joint?
9. In what respect do the pulmonary differ from other veins?
10. Describe the facial vein. Name its tributaries.
11. Describe the long saphenous vein.
12. What muscles (a) elevate, (b) depress the os hyoides and the larynx?

13. In fracture of the shaft of the radius near its center, what muscles are involved in displacement of the fragments?

14. Name and describe the different glands of the stomach.

15. In what way do the axillary and deep cervical glands communicate with each other?

PHYSIOLOGY.

1. What chemical change is necessary for blood coagulation?
2. Is the alkalinity of the blood increased or diminished by exercise, lactation, or digestion, and why?
3. State the normal amount of blood in a man weighing 160 pounds. How is it renewed after hemorrhage?
4. What is absorption, and by what process is it accomplished?
5. What conditions favor, and what conditions retard, absorption?
6. State the origin and function of lymph. Is it coagulable, and why?
7. What tissues and organs are developed respectively from the ectoderm, mesoderm, and endoderm?
8. What are the Wolffian bodies, and what becomes of them?
9. Discuss the corpus luteum. Does it indicate pregnancy? Explain.
10. What principal centers are located in the medulla?
11. What are the functions of the brain membranes?
12. Compare the functions of the white and gray matter in the encephalon.
13. Name, in order of importance, the organs in which animal heat is developed.
14. What variations of temperature are found in different parts of the body? Why?
15. Can a man live on an exclusively meat diet? Why?

MATERIA MEDICA AND THERAPEUTICS.

1. What remedies may be used to induce emesis? Give dose of each.
2. Name three mineral acids with therapeutic properties of each.
3. State uses and doses of salol, guaiacol, and heroin.
4. Give the source and physiological action of opium; name four preparations with adult dose of each.
5. Define alteratives; name five used in medicine with the therapeutic properties of each.
6. Compare the physiological action of aconite and digitalis; give adult dose of each.
7. Describe symptoms of ptomaine poisoning; outline the treatment.
8. Differentiate the effects of strychnine, nitroglycerin, and strophanthus on the arterial system.

9. Mention three vegetable and three mineral astringents with adult dose of each.
10. Specify the precautions to be used in administering chloroform; give reasons therefor.

11. Diagnosticate uremic poisoning; outline an eliminative treatment.

12. Explain the action and effects of phenacetin; give adult dose.

13. Prescribe in proper form for chronic bronchitis in an adult; explain the action of the ingredients used.

14. Enumerate the official preparations of arsenic; state the dose of each.

CHEMISTRY.

1. (a) How does uric acid form in the system? (b) Of what are gout stones principally composed? (c) What is the solubility of uric acid?

2. (a) State the origin of tartaric acid and other tartrates. (b) Give chemical formula of cream of tartar. (c) Rochelle salt.

3. (a) What are fats chemically? (b) What becomes of the fats ingested and what is the province of adipose in the body? (c) Under what condition does fat occur in the urine?

4. (a) What is nitroglycerin? (b) How is it used in medicine and what is the effect on the vascular system?

5. (a) What is chloral hydrate? (b) How does chloral act as a poison?

6. (a) What is the difference between ferrous and ferric salts? (b) Give examples by formulas.

7. (a) What is potassium permanganate? (b) Give formulas and its action as a disinfectant.

8. (a) Which are the two iodides of mercury? (b) Give formulas. (c) What is the difference in action of the "ous" and "ic" compounds of Hg?

9. (a) Define the term hardness as applied to a potable water. (b) What does the presence of an abnormal quantity of chlorides in a drinking water indicate?

10. Name three pigments normally present in human urine.

11. (a) Name three univalent elements. (b) Name a monobasic, a dibasic, and a tribasic acid radical.

12. (a) Give source, symbol, valency, and atomic weight of bromine. (b) What is acidum hydrobromicum dilutum (U. S. P.)?

13. (a) What is oxalic acid? (b) For what salt is it liable to be mistaken? (c) Give treatment for poisoning by oxalic acid.

14. (a) What are the principal constituents of cow's milk? (b) Give chemical explanation of the souring and curdling of milk.

15. Name the alkaloids of belladonna, aconite, nux vomica, and opium.

HISTOLOGY.

1. Give composition of human blood.
2. Mention different leucocytes and derivation of names.

3. What are thrombocytes?

4. Give structure of the mucous membrane of the stomach.

5. What cells line the larynx, trachea, bronchi, and bronchioles?

PATHOLOGY.

6. Give role of white blood-cells in infection.

7. What is hemolysis?

8. Define agglutination. How produced?

9. Define atelectasis; give causes and effects.

10. What will cause and what are the effects of exclusion of bile from the intestines?

BACTERIOLOGY.

11. Give chemical composition of bacteria.

12. What are proteid bodies? Name varieties and describe them.

13. What substances must be supplied to bacterial cells for their food?

14. Mention other bacterial functions besides disease production.

15. What are the fermentations of milk? Which are innocuous and which harmful? State effects of pasteurizing and boiling.

PRACTICE OF MEDICINE.

1. Describe bubonic plague.

2. Differentiate tonic and clonic spasms.

3. Describe the different stages of syphilis.

4. Differentiate cystic and renal hematuria.

5. Give the causes and symptoms of cholelithiasis.

6. Give the causes and symptoms of edema glottidis.

7. Give four physical signs present in consolidation of lung tissue.

8. How would you determine high blood-pressure? What is its significance?

9. What, how much, and how often should a four-months-old bottle-fed baby be fed?

10. Differentiate ataxia and aphasia, and give the location of the lesion in each.

11. Where is bronchial breathing heard normally? What does it indicate when heard elsewhere?

12. What is the significance of (1) epithelial; (2) granular; (3) fatty, and (4) waxy casts in the urine?

13. Describe the prodromal symptoms, giving the duration of each, in (1) scarlet fever; (2) measles, and (3) small pox.

14. Give three causes for specific gravity of the urine (1) under 1010, and (2) over

1030, and the significance of each.

15. Describe vesicular, papular, and pustular inflammation of the skin and name a disease of which each is characteristic.

OBSTETRICS AND GYNECOLOGY.

1. What are the characteristics of the female pelvis and how does the male pelvis differ therefrom?

2. Describe the vulva (a) of a virgin, (b) of a multipara.

3. Describe (1) the process of fecundation, and (2) the uterine changes resultant.

4. Describe pelvimetry and name the five most important measurements.

5. Describe Walcher's posture and its uses.

6. What precaution as to the urine should be employed in the case of a pregnant woman?

7. Differentiate accidental hemorrhage, p'acenta prævia, postpartum hemorrhage.

8. Describe fully the treatment you would use in postpartum hemorrhage.

9. How should asphyxia neonatorum be managed?

10. Cause, preventive treatment, and curative treatment of ophthalmia neonatorum.

11. What causes puerperal infection? How may it be prevented?

12. How do you prepare a patient for an operation which is to involve both the abdominal surface and the vagina?

13. What are the causes of pelvic abscess? Outline treatment.

14. Describe the menopause and name the diseases common to that period of life.

15. Differentiate vaginitis and vaginismus and give treatment of the latter.

SURGERY.

1. Diagnosis and treatment of perforation of intestine in typhoid fever.

2. Give etiology, diagnosis, and treatment of empyema of the frontal sinus.

3. Give symptoms and treatment of ischio-rectal abscess.

4. Treatment of compound fracture of tibia and fibula.

5. Describe tertiary syphilis of the pharynx.

6. Diagnosis of embolism of the mesentery.

7. Mention the causes of incontinence of urine.

8. What are the symptoms of cerebral compression?

9. Describe in detail lumbar puncture.

10. Diagnosis and treatment of papilloma of the bladder.

11. Give indications for drainage.

12. Mention the causes and symptoms of stricture of the rectum.

13. Give treatment of tubercular peritonitis.

14. Give diagnosis of lipoma of the neck.

15. Give diagnosis and treatment of aneurysm of the femoral artery.

HYGIENE.

1. Define hygiene.

2. What would you advise a person to do that fears pneumonia, rheumatism, nephritis, insomnia?

3. What is absolutely necessary for the maintenance of the healthy functions of the body?

4. What is antiseptic? What is meant by the term disinfection?

5. Name five disinfectants.

6. Why does a heated atmosphere charged with moisture render sunstroke liable?

7. State the time that quarantine should be imposed in (a) diphtheria; (b) smallpox.

8. What instructions should be given a nurse respecting the prevention of the spread of scarlet fever from the sick room?

MEDICAL JURISPRUDENCE.

9. State the difference between criminal and civil malpractice.

10. Name some of the violent causes of death.

11. Give in detail the condition which would warrant the induction of abortion by the practitioner.

12. Define the word "insanity."

13. Name the post-mortem signs, external and internal, of recent drowning.

14. When is induced abortion lawful and what are the conditions in which it is called for?

15. In a case of suspected infanticide what are the evidences of live birth?

Some Practical Results of the Newer Methods of Examining the Heart.

In the past few years the pages of our medical journals have been profusely decorated with polygraphic and electrocardiographic tracings, oceans of waves, each wave having been analyzed and lettered according to the theory and system of nomenclature adopted by the writer. Those who have had the enthusiasm and energy to study the subject thoroughly have found it, indeed, a fascinating one. But the question may be fairly asked at this time, of what value are all these researches to the man who must depend upon an equipment limited to a stethoscope, plus his eyes, ears, fingers, and brain? What practical lessons have been taught by the use of the complicated instruments which are required to take these graphic records of the heart's action?

Perhaps the first great achievement which

must be credited to these methods of study is the scientific classification of the irregularities of the heart's action, which has given us a much more intelligent idea of their significance. A very large proportion of these arrhythmic cases may now be readily recognized and classified without recourse to graphic methods, by a simple examination of the heart and pulse according to the time honored methods.

The least significant type of arrhythmia, from the practical standpoint, is what is now spoken of as the sinus arrhythmia, because the heart beats all originate at the normal point of origin in the sinus. It occurs usually in young people, particularly those of a nervous constitution, and may be recognized by the gradual variations in force and frequency which show a constant relation to various sources of reflex nervous influence, such as respiration, deglutition, etc. Such arrhythmias offer no evidence of a diseased condition of the heart itself.

Perhaps the commonest type of arrhythmia is that dependent upon the occurrence of small extra beats, thrown in either with some regularity, as after every first, second, or third beat, giving the pulsus bigeminus, trigeminus, etc., or else thrown in apparently at random. Such extra beats are usually followed by a compensatory pause, and may be readily recognized by placing the ear to the chest, even if they are overlooked at the wrist. We are taught that they signify the presence of an abnormally irritable spot in the heart muscle, which is capable of originating a cardiac contraction, and the location of this spot may be worked out with some precision by the aid of graphic methods. The extrasystolic type of arrhythmia may occur in all grades of cardiac involvement, and we believe it is still an open question whether it always indicates organic deficiency in the heart.

The arrhythmia which has been the source of the greatest discussion is that which is variously known as absolute irregularity, perpetual irregularity, disorderly rhythm, nodal rhythm, etc. In this condition there seems to be no orderly plan about the sequence of events. Beats follow one another with seeming indifference to the time, size, or capacity of those preceding and those to follow, the rate usually being decidedly rapid. Such a pulse is absolutely unmistakable to the examining finger. As the polygraphic tracings in this condition present no evidence of any auricular contraction, Mackenzie at first believed that it might be accounted for by a paralysis of the auricles. This explained very satisfactorily the absence of the auricular wave in the venous tracings and the hypertrophy of the auricles, but not the peculiar irregu-

larity of the heart's action.

The problem was solved largely by the work of Thomas Lewis, who showed that where this type of irregularity occurs it is due to a fibrillation of the auricular muscle. Instead of a rhythmic, coordinated series of contractions, the auricles are in a state of incoordinated tremor. The action has no propulsive force, and showers the ventricles with a rapid succession of irregular impulses. The ventricles correspond to but a comparatively small number of these, and the time and efficiency of each response is dependent upon the vigor of the impulse, the degree of recuperation of the ventricles, and perhaps other factors, so that the result is a rapid, uncertain, irregular action.

This condition of auricular fibrillation has been shown by Lewis, Cushing, Mackenzie, James, and others to be present in from fifty to ninety per cent. of cases of severe cardiac insufficiency. The practical bearing of this discovery rests in the peculiar efficiency which digitalis has been shown to exert in this group of cases. As the patients who come under the observation of those who are equipped with the necessary paraphernalia for graphic studies are, for the most part, in an advanced stage of disease, it remains for the general practitioner to work out the prognostic significance and practical bearing of the earlier and transient attacks of this condition.

The polygraph and electrocardiograph have also shed much light on conditions in which there is a disturbance of the function of conductivity, as in various types of heart block, so that they may now be recognized and interpreted clinically with more certainty.

Altogether, the practical aid which has been offered the man at the bedside, as a result of these methods of study, has more than justified all the time and energy which have been expended upon them, and we feel sure that only a beginning has been made, and that very much may be expected from a continuation of these studies.—New York Medical Journal.

Experimental Poliomyelitis.

On the basis that the virus of anterior poliomyelitis lurks in the dust and that the nasopharynx must be the point of entry, the authors collected the dust of rooms wherein cases of poliomyelitis occurred and prepared extracts from these sweepings, which they injected into monkeys (of the species *Rhesus*) subcutaneously, intraspinally and intracerebrally. Until now they have used six monkeys for their experiments. The sweepings were obtained from cases of from six months' to three days' duration after the onset of the paralysis.

The following is a report of one of these experiments: August 29, they obtained the sweepings of a room wherein a 4-year-old child was stricken with poliomyelitis and was then two days paralyzed. In this room the child passed most of its time and also was there confined to bed. The dust, about 50 grams, was macerated overnight with 30 cubic centimeters of sterile water and then shaken for one hour. The mixture was filtered through a paper filter and 15 cubic centimeters of this filtrate were passed through a special Bouge filter under high pressure within an hour.

Within eighteen hours after the collection of this dust 5 cubic centimeters of the filtrate were injected into a monkey through the spinal canal after having first withdrawn 5 cubic centimeters of a clear spinal fluid and 8 cubic centimeters were injected subcutaneously. After the injection the animal was depressed and sullen and inattentive to its surroundings. On the following day the monkey was perfectly well and remained so until September 4, six days after the injection, when it was very ill and paralyzed. The animal presented the following symptoms: Flaccid paralysis in the right foreleg, which was hanging down from his side; he was unable to move it. There was a marked paresis of both hind legs, most pronounced in the left. He was able only with great difficulty to move about in his cage and this he accomplished by holding on to the bars with the left foreleg and hopping about. The patellar and plantar reflexes were absent. On extending the hind legs he shrieked, evidently from pain. He was chewing his food at times, but was rather sullen and depressed, keeping continually to a corner of his cage, holding on with his left forepaw, and lying down when unobserved. The muscles of his neck were not rigid, the pupils were normal and reacted to light promptly. A lumbar puncture was made repeatedly, but without success. Two drops of a gelatinous material were obtained from the needle, after withdrawing it from the spinal canal.

September 6, two days later, he still showed all the symptoms mentioned, but more marked, and still chewed his carrot. A spinal puncture was made and 2 drops of a gelatinous material obtained.

The animal was then killed and the following are the results of the autopsy: There was a marked hyperemia of the meninges in the lumbar region and a lesser one in the cervical region; the vessels of the brain cortex and cord were markedly congested. This hyperemia was evident at all the levels of the cord, in the medulla, the pons, the ventricles and basal ganglia. The cord and brain presented an edematous condi-

tion. On section, one could note hemorrhages in the gray substance of the cord, especially in the lumbar and cervical regions. There were also some hemorrhagic foci in the medulla, while the white and gray substance of the brain presented microscopically a normal appearance. The viscera presented the following changes: Areas of congestion in the middle and lower lobes of the left lung; the spleen was firm and congested, but not enlarged; the omentum was adherent to the cecum and all the visceral vessels were very much congested. All other organs and glands were, to all appearance, normal.

Sections of the spinal cord, cerebellum, pons, medulla, brain, spinal and basal ganglia were now emulsified in 50 cubic centimeters of normal salt solution and preserved for injections. The authors believe that they have thus proved that: Acute poliomyelitis is both infectious and contagious; that it is propagated by the dust, and that the nasopharynx must be the port of entry.—New York Medical Journal.

Exophthalmic Goiter.

The thyroids of sixty-nine cases were studied by Marine and Lenhart. They found that the anatomic changes in the several body tissues in exophthalmic goiter are variable and manifold. The most prominent and most constant change is active hyperplasia of the thyroid and lymphoid tissues. These changes are not constant, since the exophthalmic goiter syndrome, as at present recognized, may coexist with a normal thyroid, with a colloid goiter, with an actively hyperplastic thyroid, with an atrophic thyroid or with a tumor of the thyroid. The great majority of individuals presenting this syndrome in recognizable form have some degree of thyroid and lymphoid hyperplasia, and all true cases have had, during the developmental stage, active thyroid and lymphoid hyperplasia. Active thyroid and lymphoid hyperplasia are not specific for this syndrome, since similar anatomic changes are present in a variety of other abnormal body states.

The series of anatomic changes which occur in a thyroid as it passes from its normal or its colloid state through active hyperplasia and on to atrophy or to colloid goiter represents this tissue's biologic reaction whenever those biochemical disturbances in the organism's nutrition occur which excite its compensatory activity. Active thyroid hyperplasia means thyroid insufficiency, and although the causes which excite this activity are unknown and, therefore, may or may not be multiple, still, the basic anatomic reaction of the thyroid tissue seems to be the same in all the several clin-

ical varieties of goiter and, indeed, seems to be the only one with which the thyroid tissue is endowed. The only defined physiologic activity of the thyroid secretion is that determined by its iodine content. Iodine is related to the exophthalmic goiter thyroid in the same way that iodine is related to the thyroid of other clinical associations and of other animals as well, viz., that iodine varies inversely with the degree of active hyperplasia. The ability of the exophthalmic goiter thyroid to take up iodine varies with the degree of active hyperplasia (hence inversely with the amount of iodine present) and is similar to that of other active thyroid hyperplasia in man and the lower animals. Iodine induces the same series of anatomic changes in exophthalmic thyroid goiter as in the other varieties of thyroid hyperplasia in man and animals.

The temperature and pulse reactions both before and after operation tend to vary with the degree of thyroid and lymphoid hyperplasia. The differences between the reactions in cases with normal or with colloid glands and the reactions in cases with marked hyperplasias are too slight for a suggestion of any cause and effect relation. The pulse and temperature reactions and the thyroid hyperplasia are parallel and resultant phenomena dependent on more general and more remote causes. An incomplete exophthalmic goiter syndrome may exist with the thyroid normal, or, the thyroid may be markedly hyperplastic with the syndrome absent, or, finally, the histologic structure and iodine content of the thyroid in a given case of exophthalmic goiter may be reversed without necessarily modifying the symptom complex. Myxedema does not precede; it occasionally accompanies, but usually supervenes late in the course of exophthalmic goiter and is to be looked on as the end stage of thyroid insufficiency. The immediate postoperative mortality, with its associated high temperature and pulse-rate in uncomplicated cases, varies with the degree of active lymphoid and thyroid hyperplasias and is most probably the result of the organism's profound general weakness and exhaustion. The degree of active lymphoid and thyroid hyperplasia is therefore the best index of the severity of the disease. The authors emphasize that the essential physiologic disturbance of the thyroid in exophthalmic goiter is insufficiency, its reaction compensatory and its significance symptomatic.—*Archives of Internal Medicine.*

Aural Vertigo.

Blake remarks that in a well marked intralabyrinthine hemorrhage or effusion, the diagnosis both as to the character and

the location of the lesion is usually easily determinable. When once the acute stage has passed, and the effect of the localized intralabyrinthine pressure has been compensated for by natural processes of repair, the vertiginous symptoms recur only under conditions of like causations a repetition of the hemorrhage or effusion, for instance; or, more frequently, recurrently, under the temporarily increased intralabyrinthine pressure incident to such a cause a localized suspension of vasomotor inhibition. In the case with pronounced evidence of intralabyrinthine pressure of extrinsic origin, the symptoms of ampullary disturbance may persist with only such variations as are incident to intralabyrinthine circulatory changes, until the major, accessible, extrinsic, pressure caused is removed, be it a new growth or an epidermal accumulation in a suppurative middle ear, an extensible cicatrix of the drumhead transmitting preponderating atmospheric pressure to the stapes, or a muscular retraction to be overcome by the creation and protracted maintenance of a partial vacuum in the external auditory canal. In cases of recurrent vertiginous attack with inadequate evidence of an intralabyrinthine or of an accessible extrinsic pressure factor, Blake and Putnam through it desirable to test the effect upon the line instituted by Babinski, of decrease of intracranial and, correspondingly, of intralabyrinthine pressure by some means which would leave the auditory apparatus intact, an additional incentive to such a series of investigations being previous experiences in disturbances of intralabyrinthine pressure, incident to investigations in regard to the removal of the stapes. Under these considerations, Blake and Putnam practised lumbar puncture in a series of adult cases in which the extrinsic pressure factor was at a minimum or absent. Putnam states that it is to the disorders of the semicircular canals that aural vertigo is due, and it is by acting on this portion of the labyrinth that the galvanic current produces (in normal subjects) vertigo, nystagmus, and the inclination of the head toward the side of the positive pole. The functional efficiency of the apparatus of which these canals are an essential part may be impaired even though the cochlea and auditory apparatus are in a normal state, so that tests for healing are an insufficient guide in the determination of the labyrinthine condition in cases of aural vertigo. Much better guides are the strength of galvanic current required for producing vertigo, nystagmus, and inclination of the head, and determination of the direction of this inclination; and equi-

libration tests, such as those of Barany.—
Boston Medical and Surgical Journal.

Right-Sided Abdominal Pain in Women.

In discussing this subject the author points out that the cecum often complicates the diagnosis in cases where this type of pain is present. The cecum often lies in the true pelvis, especially in women who have borne children, and it is by no means uncommon to find the pelvis entirely occupied by a cecum distended with gas, such a condition of this organ rendering it often a source of vague pain. A case of this kind is referred to by the writer, in which an indefinite swelling, supposed to be an ovarian cyst, could be felt in the right iliac fossa. On percussion, however, it yielded a high resonant note. The patient being in acute pain, it was decided to incise the abdomen, when the swelling was found to be due to an enormous accumulation of gas in the cecum, the pressure being so great as to cause the peritoneal coat to split in two places. The cecum had partially twisted on its axis. The gas was evacuated through a puncture, the edges of the small opening being tacked to the margins of the incision as a safeguard, and an admirable and permanent recovery resulted.

An important form of pain in the right flank is associated with a painful anal fistula. The pain during defecation in the presence of the latter condition often causes patients to avoid this act as much as possible, and occasionally the spasmodic action of the sphincter so interferes with the regular emptying of the bowel that the colon and cecum become abnormally distended. In these cases the more or less constant pain in the right flank has led the practitioner to attribute it to ovaritis, appendicitis, and in older women to cancer. In many cases the author has found chronic right sided pain associated with a painful anal fistula to be cured by dilating the sphincter under an anesthetic, and then clearing out the bowels with a dose of castor oil.

Some of the most misleading cases are those in which young women have been treated for indigestion supposed to depend on a chronic ulcer of the stomach when the appendix has been the cause. When gastric symptoms are sufficiently severe to warrant an operation and the surgeon finds the stomach normal on inspection, it is his duty to examine the vermiform appendix and he will often find it abnormal. Its removal in such a case will more certainly give relief than the gastrojejunostomy formerly recommended.

In dealing with persistent right-sided abdominal pain, where it is impossible after

careful clinical examination to decide which organ is at fault, and the patient's condition is such as to justify operative interference, it has been the author's custom to make a fairly free incision in the line of the right linea semilunaris and systematically examine the organs on the right side of the abdomen. This incision allows of examining the pelvic organs, including the ureters, cecum, appendix, kidney, gall-bladder and ducts, pancreas, duodenum, pylorus, and liver. It also has the advantage of permitting the surgeon to deal with conditions requiring surgical treatment in almost any of the organs mentioned. It occasionally happened that nothing could be seen to account for the pain, and in a few cases some unexpected pathological conditions were found. Occasionally an operation revealed the presence of serious and painful disease in young women who had been treated as hysterical by their parents and physician.—Bland-Sutton, in *The London Practitioner*.

Cholelithiasis.

Ryerson shows that typhoid fever, which is recognized as one of the exciting causes of gallstone formation, occurs most often in the early period of life, and the conditions of pregnancy and fibroids of the uterus, which are known to be commonly associated with gallstones, are also most common at that time of life. Gallstones are not found at autopsy in any larger proportion of cases after forty-five than before that age. The author concludes: If gallstones are formed as the result of a chronic infection of the gallbladder occurring most commonly between the ages of fifteen and forty-five, why should we not try to overcome this infection? We know that if a gallbladder is emptied of stones and drained for a short period of time, stones very rarely reform, as the cause of their formation, chronic infection, has disappeared. If this is the case, why should we not take the same steps when we know that a chronic cholecystitis is present, which will ultimately result in the formation of gallstones? Will the patient ever get rid of the infection if we do not drain his gallbladder? The anatomical arrangement of the cystic duct, on account of the infolding of the mucous membrane in the form of valves in the interior, is of such a character that it is questionable whether it can provide sufficiently free drainage to the gallbladder to rid it of its infection. The fact that we know that there exist "typhoid carriers" in whom the typhoid bacilli have been found in the gallbladder twenty and even thirty years after infection, also shows us that this infection

of the gallbladder tends to persist, unless steps are taken to relieve it. Not infrequently, in operating on the abdomen for symptoms suggestive of gallbladder trouble, if the surgeon cannot palpate stones in the interior of the gallbladder or in the ducts, he closes the abdomen without opening the gallbladder. The symptoms of chronic cholecystitis are so closely identical with those of cholelithiasis that the gallbladder, although showing no stones or peritoneal changes, such as adhesions, should invariably be opened and drained in such cases.—Canadian Med. Asso. Journal. Exchange.

Extirpation of a Cancerous Tumor of the Liver.

Israel (Berliner klinische Wochenschrift) says that it is with extreme rarity that a cavernous tumor of the liver is subjected to surgical treatment. The reason for this is that these tumors are, as a rule, small and benign. Occasionally, nevertheless, they reach a large size, and on account of the pain and pressure they produce call for surgical measures. The first operation of this character was done by Eiselsberg in 1893, and altogether six operations have been performed.

He reports a case in a man aged thirty-nine years, who had for a year noticed a mass in the epigastrium which during the past four months had become a burden on account of pain, pressure on the stomach, and vomiting. In the epigastrium there was an hemispherical mass larger than a fist, which was located partially behind the left lobe of the liver and extended midway between the ensiform and the navel. A pathognomonic sign which it manifested was that when pressed upon it disappeared, and when pressure was relieved it reappeared. A diagnosis of cavernous tumor was thus established, and operation performed.

This is the first case in which diagnosis has been made prior to operation. Incision was made in the middle line, and at once a large dark-bluish-red tumor presented. The liver was mobilized by cutting the suspensory ligament, and in this way the liver lobe was brought into the wound. The left triangular ligament and the coronary ligament were also cut through. An incision was made between the left and the right lobe of the liver at the lower portion, after applying a series of through-and-through silk sutures. When the thick upper portion of the liver was reached a trocar was passed through the liver from front to back, the stylet removed, a rubber tube passed through the cannula, the cannula removed, and the tube tied; in this way the left lobe of the liver was removed

in a bloodless manner. The end of the rubber tube was carried into the abdominal wound and the wound closed around it. Primary healing occurred except where the tube was placed. At the end of four days the knot was cut and the tube withdrawn. The patient is cured and his troubles removed.

Excision of Colon and Ileum.

Barker describes his procedure in one case as follows: Under spinal analgesia, he included the scar and fistula between two curved incisions and then stitched the two included skin edges over the fistula, using the threads besides to tie a thick layer of gauze over this to prevent any soiling of the subsequent deeper wound. Then the two incisions were deepened into the abdomen. It was then seen that the whole cæcum and most of the ascending colon were involved in advanced tubercle. Besides this, the last 18 inches or so of the terminal portion of the ileum were studded with tubercles as large as small peas. The cæcum was mobilized, but with the greatest difficulty owing to very dense cicatricial adhesions all round and to the omentum. During the necessary dissection the cæcum gave way, but the hole was clamped, wiped, and enveloped in gauze. The hepatic colon was clamped, divided, and its end turned in and sutured. The ileum was now cut across over two feet from the valve and the whole tuberculous bowel with its mesentery and many infected glands removed from the abdomen. Then the end of the ileum was planted into the side of the transverse colon about two inches from its closed end. The whole procedure was a most complicated one owing to adhesion, infiltration, and glandular infection as well as the difficulty of determining how much of the ileum should be taken, for many small tubercles were scattered widely and no doubt some were left behind above the line of junction. The wound was almost closed, but as there was some justifiable doubt as to the whole of the operation having been carried out without infection from the fistula and from the tear of the cæcum it was thought better to put a gauze drain into the upper angle. This was removed in a few days, but a sinus remained at the spot for a long time until the patient went to the country. Otherwise the rest of the wound healed perfectly. The operation lasted for two and one quarter hours, but the anæsthesia was absolutely satisfactory to the surgeon and to the patient, who had expressed a wish to escape from chloroform. There was no sickness and no shock.—London Lancet.

Afferent Fibers in Ventral Spinal Roots.

—Kidd (British Medical Journal) reports a large amount of evidence, surgical, experimental, histologic and embryologic, which leads him to the inevitable conclusion that afferent fibers, in some cases algetic, in others reflex, exist in the spinal ventral roots of man and many other vertebrates. In his opinion, we ought to divide ventral as well as dorsal roots in cases of intractable pain, except in the case of the third and fourth cervical ventral root; here division would cause motor palsy of the diaphragm on the side of section; but, unilateral phrenic palsy in man and laboratory animals does not usually cause danger to life. It is, of course, true that ventral root division for pain would always cause some motor palsy, but the patient would probably almost prefer this disability to a continuance of his pain. The fact that in some cases dorsal root division does abolish all pain suggests that it may be only in some regions of the spinal cord that any afferent fibers pass up ventral roots to their endoneurial ganglionic groups of cells.

Certain experiments suggest to the author in the clearest manner that the ventral cervical roots of the pigeon, and the ventral roots of the cauda equina of the dog, contain afferent fibers which supply the reflex component of the muscle tonus of the wing muscles and the tail muscles, respectively. The origin of these ventral root afferents in the spinal cord region, whether cervical (pigeon), thoracic and lumbosacral (man), or sacrococcygeal (dog), is entirely from endoneurial afferent ganglionic cells, situated, Kidd believes, in (1) the smaller cells of Clarke's column, (2) the solitary cells of the dorsal horn, (3) some of the "middle cells" of the cord, and possibly also (4) some of the cells of the nucleus cuneatus of the bulb. Kidd denies that any motor cells exist in (1) tectum mesencephali, (2) locus coeruleus, (3) Deiter's nucleus, (4) dorsal vago-glossopharyngeal nucleus (ganglion), or (5) in any of the four spinal dorsal-zone cell groups mentioned. Since all these parts are developed in the dorsal zone of the embryonic brain or cord (the alar lamina of His), and since, further, there is no instance known in any vertebrate of motor fibers rising in cells derived from the alar lamina, Kidd holds that it is nothing less than a morphologic outrage to teach that any of these cell-groups give origin to motor fibers.

The Corpus Luteum.

Chiri (L. Obstet.) says that the evolution of the corpus is the same in man as in mammals; only the duration of the development varies, the general process being the same.

In pregnancy there exists a sort of activity which acts strongly upon the ruptured follicle to transform it into the corpus luteum, and also more feebly upon the unruptured follicles and the cells of the stroma. The corpus luteum has the power to lengthen the spaces between the periods, and its extirpation brings them closer together. It is the prolonged action of this body which prevents menstruation during gestation. During a normal menstruation we do not find differentiated follicles, but a normal corpus luteum; five or six days after the period there are found a follicle developing and a corpus in state of regression; fourteen or fifteen days after the period the follicle is ripe, or ruptured, and the previous corpus is atrophied; seventeen to twenty days after the period we cannot find a new follicle in process of differentiation, but a corpus is seen in process of formation; twenty-five to twenty-eight days after the period we find a perfect corpus luteum and no new follicle. Thus we conclude that the follicle ruptures twelve to fifteen days before the period and the corpus then begins to develop. In mammals who have no interstitial gland the corpus does not cause the rut. Ancel and Bouin advance the theory that there are two kinds of animals; first those with spontaneous ovulation, followed by the formation of a corpus luteum and reappearing at regular periods; second, animals which form a corpus luteum after copulation only, a corpus of gestation. There is a difference of the ovarian structure in these two kinds of animals; this consists in the existence of an interstitial substance in the ovary in the animals with spontaneous ovulation. The interstitial gland of the ovary of mammals with spontaneous ovulation and the periodic corpus of the spontaneous ovulation are homologous formations; they are glands of internal secretion which determine the sexual characteristics; they correspond to the interstitial portion of the male testicle. The corpus of gestation exists in all mammals; it is adapted to gestation and not related in function to the tissues contained in the male.

The Wassermann Reaction in the Blood and Cerebrospinal Fluid, and the Examination of the Cerebrospinal Fluid in General Paralysis and Other Forms of Insanity.—Muirhead (The Journal of Mental Science) says that thirty-five cases of general paralysis and seventy-seven cases of other psychoses were subjected to the test.

In the cases of general paralysis, the serum was positive in 76.7 per cent., the cerebrospinal fluid in 71.4 per cent. and a partial positive reaction was obtained in the spinal fluid in two instances. In other psy-

choses the Wassermann reaction was negative in 98.7 per cent., and in one case where insanity was associated with Addison's disease with marked tuberculosis, a partial positive reaction was obtained in both the serum and spinal fluid.

The author says:

(1) The Wasserman reaction has been found positive in the blood serum and spinal fluid in a large percentage of cases of general paralysis and negative in all other cases of insanity examined, therefore its presence is a valuable addition to establish the diagnosis of general paralysis, but its absence does not negative that the case in question may be one of this disease.

(2) The proteid reaction, more or less marked, is present in all cases of general paralysis, and was obtained in sixteen out of seventy-five cases of other psychoses, although the intensity of the reaction was much less marked. It must be concluded, therefore, that this reaction is not absolutely specific for general paralysis, and demonstrates that in other insanities chemical changes are present in the cerebrospinal fluid.

The quantity of proteid in the spinal fluid is much increased in general paralysis compared with any other type of insanity.

(3) An increase of lymphocytes was found constantly present in general paralysis and in no other case of insanity examined; thus, according to these observations, the presence of a lymphocytosis is the most reliable sign of this disease.

(4) The substance reducing Fehling's solution, although varying in its power of reduction was never absent in all cases of insanity examined.

Laparotomy in Irreducible Retroversion of the Gravid Uterus.—Goullioud (Ann. de Gyn. et d'Obst.) says that in many cases retroversion of the uterus in pregnancy may be reduced by vagino-abdominal movements, but that when this is found impossible we should not hesitate to perform laparotomy since death is inevitable from gangrene of the bladder, compressed between the uterus and the pelvic bones. The author's method of reduction is as follows: When the condition is discovered early it may be reduced by means of a Hodge pessary in one of its various forms. When the uterus is larger and softer, with two fingers in the vagina he tries to reach the promontory while he crowds up the presenting part; by a little force the promontory may be reached. The author then rolls up the fundus like a ball, and it falls forward and is disengaged from the pelvis. In some cases it is necessary to resort to anesthesia to overcome the resist-

ance of the patient. The knee-elbow position is the best for these maneuvers. The Gariel balloon pessary is of assistance in this procedure. When incarceration occurs, retention of urine being persistent, and cystitis, subpelvic and vulvar edema are present, with absolute constipation, and pelvic pain, it becomes necessary to interfere by laparotomy. Adhesions of the uterus are the greatest obstacle to reduction. He had a case in which a strong band held the uterus in retroversion, a band that was not the result of inflammation. If laparotomy and fixation of the fundus be performed the pregnancy will usually go on to its natural termination without interruption.

Rupture and Perforation of Pyosalpinx.

Lejars (Semaine Medicale,) reviews what Bonney and others have published on the subject, emphasizing the necessity for bearing in mind the possibility of rupture of a pyosalpinx when confronted with menacing peritonitis of unknown origin. The history of the case generally shows some acute flare-up of an infectious process just before, and a slight confusion afterward inducing the rupture or perforation. The pyosalpinx may also rupture during delivery or measures to induce abortion. Cherassu recently reported a case of this kind: A woman introduced a long bone canula supposedly into the uterus and during the night abdominal symptoms developed with fever; pulse was weak and 130, and the abdomen was found flooded with pus traced to one tube containing several small interstitial abscesses. The tube was removed, as the condition of the patient did not permit hysterectomy. She died in less than five days. Galliard has reported a case in which a woman convalescing from typhoid suddenly developed severe colic, vomiting and severe tympanitis, high fever and pulse of 160. When the abdomen was opened no perforation could be found in the intestines but the right tube was swollen and perforated and it was excised; the patient rapidly recovered. Typhoid bacilli were cultivated from the pus in the excised tube. The author found streptococci exclusively in one case of diffuse peritonitis from rupture of a left pyosalpinx, and death speedily followed. Latzko and Cotte have each reported a case of rupture abscess in an ovary. The author has also encountered two cases in which the tube had perforated and had become gangrenous, the condition resembling exactly those in a gangrenous appendix. The peritonitis following perforation of a pus tube is, as a rule, unusually grave and rapidly progressive: the pains are localized in the pelvis, and are severe from the first;

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the findings with vaginal palpation may give the clue to the suppurating focus in the uterine adnexa. The condition is frequently mistaken for appendicitis or a ruptured tubal pregnancy. Differentiation is important on account of the necessity for prompt operation without temporizing. Removal of the diseased tube and possibly the uterus with the adnexa is the safest course.

Scarlet Red in Ulcers.

Ryerson is enthusiastic over the use of Scarlet Red in chronic and slowly healing ulcers. In those ulcers in which skin grafting seems to be necessary he has used Scarlet Red with the most gratifying results. He describes the technique of its application as follows:

The ulcer should be washed with a solution of boracic acid or any other mild antiseptic and the edges dried. Solutions of bichloride of mercury or carbolic acid are to be avoided, as they kill the new young epithelial cells. The Scarlet Red ointment is then applied to the edges of the ulcer, either on perforated old linen or with a camel's hair brush. In large ulcers the surrounding skin is liable to become irritated from repeated applications, so it is well to cover this with some boracic or zinc ointment to within 1 cm. of the edge. In small ulcers the Scarlet Red ointment is applied to the whole base and edges. This dressing is left on for twenty-four hours, when the area is again washed and a boracic ointment (quarter strength) dressing applied. The Scarlet Red is used again at the end of another day, and so on alternately. It has been found that the continuous application of the Scarlet Red ointment is too irritating.—Canadian Practitioner.

Treatment of Muco-Colitis.

Veale, in a paper on the treatment of muco-colitis, regarded the condition as a secretion neurosis, and attributed the general symptoms to auto-intoxication following the putrefaction of food particles entangled in the retained membranes. The Presence of the membranes also led to spasm and distention of the intestines, so that a vicious circle was set up.

In the treatment as carried out at Harrogate the bowel was irrigated three times a week with about 30 oz. of the alkaline sulphur water, which was run very slowly through a Plombier tube at a temperature of from 96° to 102° F. from a height of 2 ft. The patient lies first on her right side; then on her back, and then on the left side, remaining in each position for two minutes. The fluid was retained for ten minutes, and

after it had been ejected the process was repeated. The attendant examined and reported on the washings. The irrigation was followed by a warm sulphur bath with a submassive douche to the abdomen. If constipation was present a small dose of blue pill was given at night, and the hot sulphur water in the morning. The result of this treatment was great improvement in the local and general symptoms. Some times more than one course (of about three weeks duration) was necessary, or the patient could be taught to irrigate the bowel herself, using artificial sulphur waters; while massage could to a certain extent replace the submassive douche. The diet prescribed was one that left no irritating residue. Fat, pastry, and all green vegetables (except spinach) were prohibited. The patients should take moderate exercise. Drugs were avoided as much as possible. thought sometimes a tonic or the iron waters were given. All pelvic disorders received their appropriate treatment. Savill used very large intestine douches in the treatment of muco-colitis, beginning with one and increasing to five or six pints. The sense of exhaustion that followed was removed by the subsequent application or the high-frequency current. With regard to diet, the speaker recommended cutting off all meat proteids, and giving farinaceous food and milk for a week or ten days, then cream cheese and milk only for a few days after which a return should be made to the farinaceous diet. Some patients did well on lactic-acid milk. The importance of treating constipation was emphasized. Pituitary extract had been found useful in some atonic cases.—British Medical Journal

Anaemic Enteroptotic Dyspepsia.

Peckham, in speaking of drug treatment of anaemic enteroptotic dyspepsia, mentions phosphorus and the pyrophosphates of iron, alone or combined with gentian. Tonics very rich in alcohol should not be used. Ammonium carbonate is a valuable stimulant, if one is needed. The gastric peristalsis may be very closely imitated by massage of the abdomen. This is best performed within two hours after eating. This manipulation consists in gently stroking the abdomen from side to side with the flat hand. Its proper performance requires some practice. The error is usually made on the side of too much force and too rapid stroking. This method must be used with caution, especially if there is any tendency to a spastic condition in the colon, when it will cause discomfort and pain. It may well be combined with general massage. In the atonic forms of constipation it is the

treatment par excellence, as under its use the bowels become more active and nutrition is very much improved. Measures directed to the relief of the intestinal symptoms have a very important place in the treatment of these cases. There is always a certain irritable condition of the pylorus present, resulting from the irritation of the intestinal mucosa. This is very apparent in those cases that show a very marked increase in the degree of acidity of the gastric contents. This may even reach the point of spasm. Whenever nausea is present we may assume that there is an irritation of the intestinal mucosa or that this irritation has even reached the point of a catarrh. Bismuth is probably the most useful drug that we possess for the relief of this condition. It should be given in large doses and upon an empty stomach. Besides coating the intestinal mucosa and protecting it from the superacid chyme, it also acts as a very efficient intestinal antiseptic. The bromides are also of service, reducing the secretion of hydrochloric acid and allaying many of the reflex nervous symptoms, which are so troublesome in these cases. Belladonna also may be tried, always bearing in mind that many people are very susceptible to its action. Menthol and valerian may be tried. Among the alkalies may be mentioned sodium bicarbonate, calcium carbonate,

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and the alkaline mineral waters, omitting those that have any cathartic action. Small doses of potassium chlorate may also be administered with improvement in many cases. Cathartics should be avoided as much as possible. In patients past middle life their use may be necessary, but in most cases little permanent good can be accomplished while the patient is the victim of the cathartic habit.—Medical Record.

Dresden Exhibition of Hygiene.

Home concludes a report on this exposition with an account of the naval and military divisions and of the various pavilions. That devoted to infectious diseases begins with a model of the Institute for the Study of Infectious Diseases in Berlin, with its many stables for beasts and runs for poultry; next there is a bacteriological laboratory equipment, with cages for small animals, various incubators and sterilizers, and apparatus for making culture media and preparing serums. Then follow animal plagues—e.g., swine fever; a picture of a sick pig, the methods of taking blood for examination, protective inoculation and the withdrawal of the protective serum (from the distal end of the caudal appendage), post mortem appearances, and the microscopic pathology. The insects which convey diseases are displayed—the tiny glossina palpalis and the various ticks, and next, two rooms of bacterial and blood investigations. There is a large picture on the wall showing a man with hay fever; beside it the rye whose pollen is the most virulent cause of the disease (1-30,000th of a grain an effective dose). The swelling and vascular dilatation produced on an arm by subcutaneous injection are also pictured. Here is a collection of the cellular proteins of particular bacilli, shown by the University of Michigan; also the arrangements required for growing the bacilli in the huge quantities necessary. Attention was arrested by a bottle containing a tablespoonful of "the proteid poison from white of egg," hitherto credited with but a doubtful objective existence. In the "immunity" room was an opsonin laboratory, and exhibits explaining the Wassermann reaction and salvarsan, and the applications of the deviation of complement to medicolegal work. Cholera, plague, typhoid fever, and various other of the epidemic diseases have each a room, with maps to show the distribution and diagrams of the course of individual epidemics; the bacillus, in picture and in many cultures, and the lesions are also shown. There was a fine collection of rodents. The section in tropical diseases showed parasites and also such methods of prevention as curtains, boots, gloves, and helmets. Near

this is the section for the care of the teeth, and beyond that of venereal diseases, with models of barracks which have sometimes been built for prostitutes, as well as a model examination room for them. The effects of venereal disease are shown by charts and wax models. Syphilis insontium is also dealt with, how it occurs and may be prevented. The public opinion of Germany appears equally concerned in putting down venereal disease and tuberculosis. So great having been Germany's success against smallpox who will deny the possibility of its triumphing over these others also? In a wooden house in the grounds is a Wandermuseum of tuberculosis—the traveling caravan exhibits. Their success has been such that Dr. Mollow, in Bulgaria, has copied the idea and used it with great effect against malaria. The consumptive is taught to be very careful himself, and then they trust to exalt resistance by insuring good nutrition, by impressing the need for extreme care of the teeth, and showing people which are the most nourishing foods. They do not insist on the open window, which one German medical officer of health considered impossible because of the rigor of their winter climate.—London Lancet.

The Fallacy of Warmed Ether Vapor.

In order to test the value of warming anesthetics during administration, M. G. Seelig, St. Louis, (Interstate Medical Journal, September), carried out several experiments. An ordinary laboratory wash bottle was filled about half full with ether. By means of a rubber tube the outlet flow was carried to a lead pipe one meter long with one half centimeter lumen coiled up as a "worm." This lead worm was immersed in a beaker of boiling water. Fixed on the distal end of the lead coil was a ticked rubber tube one meter long with small slits cut 10, 40 and 60 cm. from the end of the coil. Ether vapor was pumped through the coil by a bulb attached to the inlet tube of the flask, and its temperature measured at the various distances from the heated coil by a thermometer whose bulb projected into the rubber tube through the above-mentioned slits. The experiment was carried on at room temperature, 26.5° C. The ether vapor, as it emerged from the of the tube, one meter from the site of heating measured from 26.9° C. to 28° C., depending on the rapidity of flow. Sixty cm. from the coil it measured 28.9° C. At a point 10 cm. from the coil it measured 30° C. In other words, despite the fact that the ether vapor was driven through a temperature approximating 100° C., it radiated its acquired heat so rapidly that at a

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distance of one meter from the source of heat it had practically assumed from temperature. Conversely the writer was able to show that chilled vapor likewise rapidly assumed room temperature. Finally a dog was tracheotomized and a thermometer inserted through the tracheal wound to the bronchial bifurcation. Administration of ether on a mask, even in large quantities, caused not the least variation in the reading of the thermometer. These results, says Seelig, are the only ones to be expected if one keeps in mind the laws of the physics of gases, especially the fact that gases take and lose heat very rapidly. So there is no need to devise special warming apparatus for our anesthetizing vapors.

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Anaphylaxis (Hypersusceptibility.)

A discussion of the therapeutic utility of diphtheria anti-toxin would be incomplete without a consideration of the biological phenomenon known as anaphylaxis. When albuminous substances are introduced into the circulation other than by the way of the gastro-enteric tract (by subcutaneous, intraperitoneal or intravenous injection) immune bodies are formed in the blood and the individual becomes sensitized for the specific proteid injected and for an indefinite time period but not for any other form of proteid. This process is best illustrated by citing the sugar experiment. If grape sugar is injected into the vein of a guinea pig an immediate decomposition of the injected sugar does not take place. But soon thereafter a grape sugar splitting enzyme is formed in the blood, and a subsequent second injection of grape sugar is immediately reacted upon by this previously formed enzyme. In a similar way if an albuminous substance be injected into the vein of a guinea pig an enzyme is formed and thus a second injection of proteid two weeks after the first will be reacted upon the enzyme and the albuminous substance will be peptonized in the circulation, giving toxic anaphylactic symptoms similar to those observed when a peptone is injected directly into the veins of a non-sensitized guinea pig.

This is known as an albumin peptone reaction, and in anaphylaxis this peptone reaction is specific for a specific variety of albumin and for none other.

If we inject subcutaneously 1-100 cc. of horse serum into a guinea pig and after two weeks one cc. of human serum, no reaction will follow. If thereupon we inject one cc. of horse serum, the animal becomes anaphylactic. Within half a minute it will scratch its nose, its hair will rise, fibrillary twitchings will be observed and the animal becomes comatose. Within two to three minutes severe tonic and clonic convulsions will set in and end in death. When this anaphylactic shock is too weak to kill, the rectal temperature of the animals sinks from 38 to 36 or 80 degrees C. within the next eight to fourteen days, and no specific reaction in cases of recovery will follow a renewed injection of horse serum, (anti-anaphylaxis). This well-known fact has been utilized in practice. Human beings who show extreme sensitiveness to serum anti-toxin have been safely brought under its influence by beginning with minute doses and gradually increasing the dose.

When guinea pigs have succumbed to anaphylactic shock the lungs are found pale and distended. They fill up the entire thoracic cavity and do not collapse, as though under the control of bronchial spasm. The heart pulsates for from five to forty minutes after apparent death.

These severe toxic anaphylactic phenomena have been observed so far only in guinea pigs. In rabbits, cats, dogs, chickens, human beings, a mild form of anaphylaxis has been reported, but not as yet sufficiently studied.—Pediatrics.

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The Sanatorium is especially arranged for the handling of a large number of operative cases. Seven rooms have been set apart for the operative department. The designers spared no pains or expense in making these rooms perfect for which they are used, and they are examples of modern efficiency. This department is cut off from the rooms in which the patients are subsequently cared for. They face the South and have an abundance of light and ventilation.



Seventh Street Entrance.



Minor Operating Rooms.

ways ready for instant use.

The first room is used for a minor operating room and can also be arranged for examinations and treatments. Tables of the latest pattern are used for operations or examinations, or both as may be necessary. The room is shown prepared for a minor operation with all the necessary dressings and instruments. The cabinets in this room are of steel and glass and contain dressings and sterilized materials of all kinds for general use in the surgical department. In this way the sterilized materials are kept free from dust or other contamination and are al-



Instrument Room.

The next room is the instrument apartment. It contains large instrument cases of the latest models. These cases are filled with every modern surgical instrument, many of which are imported. The collection is most complete and any needed instrument is at once available for any emergency that might arise. To one side are the solution stands in which the standard stock solution are kept, so that the working solutions can be obtained at any moment.

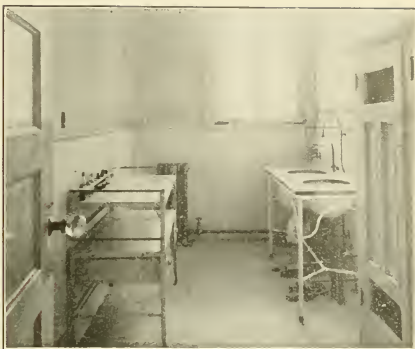


Across the hall from the two rooms previously mentioned is the dressing room for the surgeons. In this room are six roomy lockers and a double lavatory of glass and porcelain. The lavatories were specially made for the Sanatorium and have complete foot control. Adjoining this room and a part of it, is a private bath and toilet. Every convenience is at hand for the operator and his friends to become thoroughly prepared before going into the operating rooms.

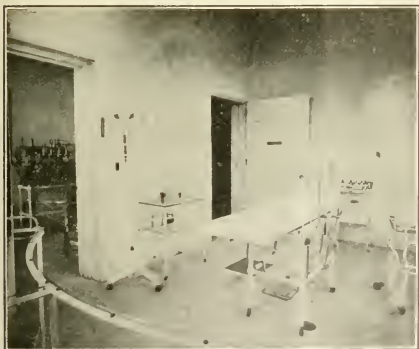


Surgeon's Dressing Room.

The next room is the nurses' dressing and preparation room. A large double lavatory with solid glass top and porcelain bowls are used for hand sterilization. These are operated entirely by the foot so that the hands need not touch anything after the preparation has once begun. A large slop sink is set in one corner for solutions and soiled discharges from the operating room. A white enamel table is used for emergency medicines and materials for quick dressings.



Nurses' Dressing Room.



Operating Room A.

This shows operating room A, and indicates the completeness and convenience of the arrangement. The table is of the latest model of white enamel frame, with glass and nickel plated top and nickel plated steel fixtures. On this the patient can be put in any position at a moment's notice. A large circular glass table is used for the instruments and dressings and can be wheeled to the operators' side where everything is at hand. The glass top stool, medicine and anesthetic tables are easily placed at any desired point. The floor is tile, the

wainscoting of marble with enamel ceiling. every thing can be thoroughly cleaned.

The woodwork is in white enamel and



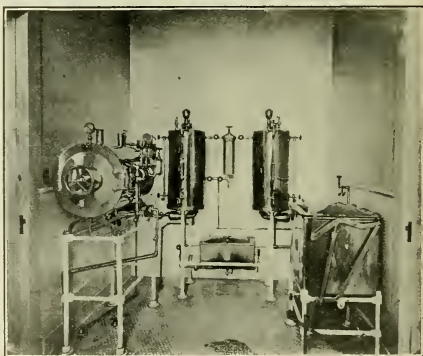
Operating Room B.

fitted up with the most improved-table, stands and other accessories that go along with a modern operating room.

This room is Operating Room B, which has the same dimensions walls and floors as operating room A. Both rooms have large windows facing to the East, South and West, and large sky-lights overhead. In addition to these lights there are in each of these rooms, ten electric globes which combined given an artificial light equal to 1000 candle power. So that an emergency operation at night can be done as well as a formal operation at noon. This room like the other, is



The sterilizing room is, of course, one of the important rooms connected with the operating department. It is situated between the two operating rooms A and B, and communicates with both of them. This room is furnished with two water sterilizers, a large pressure sterilizer for dressings, a full sized instrument sterilizer and a roomy utensil sterilizer in which the largest pans, basins or pitchers can be boiled. By these means everything going into either one of the operating rooms can be made perfectly sterile and absolutely safe.



Sterilizing Room.

This shows the hall leading from the main corridor to the different operating rooms. The first door to the left opens into the minor operating room, the second door is the instrument room, the ones at either end of rolling stretcher, open into operating room A on the left and operating room B on the right. The first door on the right is the surgeons' dressing room and the next opens into the dressing room for the nurses.



Hall.

The solution basins for the hands are shown on stand between the dressing rooms. The patients' carriage or rolling stretcher is shown beneath the clock.

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Albuminuria in Adolescence and its After-History.

A discussion took place in May of this year at the Royal Society of Medicine on this important subject, in which most of the leading medical authorities in London took part. Varied opinions were expressed as to the cases that ought actually to be included under albuminuria of adolescence. It was generally agreed that the albumen of athletes should be rigidly excluded. After severe exercise of all sorts—football, rowing, running—albuminuria invariably appears, no matter the type of individual. The amount may vary, and in some it may be accompanied by blood, but in such cases we have a definite cause.

True albuminuria of adolescence or functional albuminuria occurs only in certain types of individuals. The frequency with which it occurs has been variously stated, but, as was pointed out, if the above cases of albuminuria after severe exercise are excluded, the percentage would be undoubtedly reduced.—Edinburgh Medical Journal.

At the moment the medical profession is interested in Spleen substance, which according to reports has been used with success in tuberculosis as well as malaria and has been recommended in anemia.

Desiccated Spleen is supplied by Armour & Company, and comes as a light gray powder which is practically odorless and with little taste.

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Mammary Hypertrophy of Puberty.

Caubet describes a disease of puberty that makes life miserable for some young girls. This is a hypertrophy of the mam-

mary glands at the period of puberty to such an extent that the glands become a burden to the girl, hanging down to her abdomen or even to the knees, so that she cannot stand for the weight, or must remain in bed. The health of the girl fails, she becomes thin and weak, and menstruation is absent. The growth consists of an immense simple hypertrophy of the glandular structures and frame work of the breasts. This hypertrophy comes on rapidly and becomes immense in the course of a few months. In some cases the mother was affected in the same way, so that heredity in some cases is an etiological factor. In general puberty seems to be the cause of the growth. The only treatment that is of any avail is the amputation of the breasts.—Archives de Medecine des Enfants.

Causes Determining the Sex.

Billon says that embryological facts show how the spermatozoid and ovule encounter one another, each charged with a certain quantity of sex. From their union life is born. Physiology shows that the ovule is detached and becomes fecundate at the moment of ovulation, about the epoch of menstruation. The elements brought by spermatozoid and ovule are opposite; the testicle is female, the ovary male. Greater quantity of sex in the ovary gives a male, in the testicle a female. Clinical facts show that whenever on account of sickness, age, war, etc., the male is inferior boys are born; but the woman may not be superior to the man on account of sickness, amenorrhea, or the premenstrual period, and conception will be feminine. There are two consequences; the child will resemble morally and physically the stronger parent; the second consequence is autoregularization; the number of increases among animals will be proportional to their mortality; there will be always perfect equilibrium. The child will have the vitality of its strongest parent and the sex of its weaker one; the sex of the weaker will be not only spared but fortified. The generator which is stronger at the moment of conception gives sex to the product, and it is the opposite sex.—Journal de Medecine de Paris.

Guipsine as an Apressor Remedy.

As a result of treating a series of cases of high blood-pressure with guipsine the author has come to the conclusion that we possess in this drug a remedy fulfilling all the requirements in cases of arterial hypertension, viz., pronounced and long continued effect, constant composition, and freedom from toxic effects when administered in reasonable doses.

Guipsine is obtained from the mistletoe (*Viscum album*), and owes its activity, according to Leprince, to a volatile liquid alkaloid, to viscalbin, a glucosid, and visciflavin, a drastic resin. Chevalier found that the glucosid consisted of a mixture of two saponins, to which the power of guipsine in relieving hypertension is attributed. The fresh plant is used in the preparation of guipsine, as drying greatly reduces the activity of the drug.

In mammals, as well as in cold-blooded animals, no marked phenomena are caused by mistletoe unless considerable amounts are given. In poisonous doses the whole drug causes paralysis, with diminution and finally complete loss of general sensation; also sometimes diarrhea. Death results from bulbar paralysis. In non-poisonous doses the drug acts solely on the circulation. Sphygmographic records of mammals after injection of extract of mistletoe show a rapid decline of arterial tension with cardiac acceleration, then a gradual decrease in the rate accompanied by an increase in the strength of cardiac action, and also an increase in the blood pressure, though this remains for a considerable time below normal. The diminution of arterial tension caused by mistletoe is due almost entirely to a central vasomotor action of the drug.

Detailed records of 11 cases of abnormally high blood pressure in which guipsine was used are given by the author. Blood pressure charts and sphygmographic tracings accompany most of the case histories. The blood-pressure readings were taken weekly or bi-weekly in every case but one, in which a daily reading was taken. Suitable precautions were taken to exclude other influences which might affect the blood pressure, such as posture, diet, other remedies, etc. The guipsine was given in the form of pills, each standardized at 0.05 gram ($\frac{1}{4}$ grain) of useful principles, the number of pills administered in twenty four hours varying from 6 to 25.

The author summarizes the results obtained by stating that, in his opinion, guipsine exercises a marked hypotensive effect in many cases, such cases being probably those in which the morbid symptom is to a considerable extent the result of arterial spasm. In other instances the results are disappointing, the explanation doubtless being that in these cases the clinical picture is almost entirely due to a widespread sclerosis of the arterial system. The effect of the drug often does not appear for several days after it is first given, and often lasts a considerable time after discontinuance. In many cases large doses are required to bring about the maximum effect. Toxic symp-



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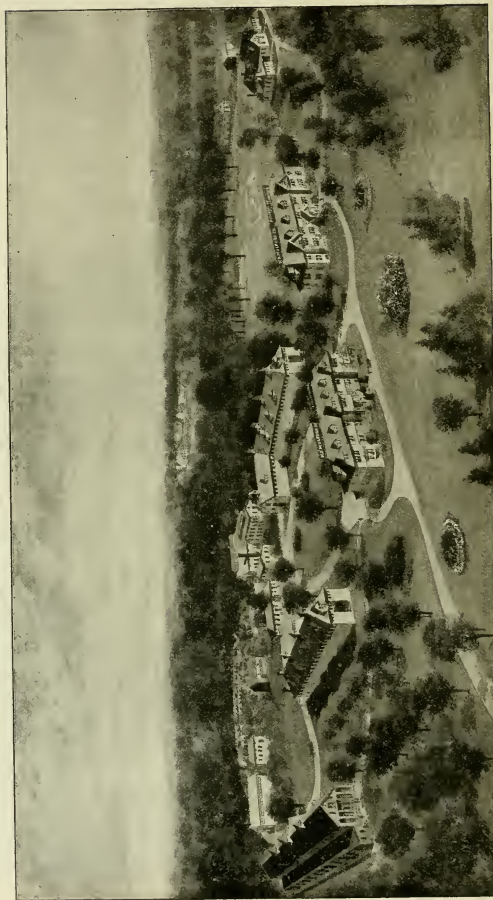
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fever, for which he came for treatment. Malarial parasites were now present in the blood in large numbers, but no crescentic bodies; eosinophiles were almost absent from the blood. Wassermann's reaction was again completely positive. Both liver and spleen were enlarged, the spleen more enlarged than before. An injection of 0.3 grammes of Ehrlich's preparation ("606") was made, with an apparently completely successful and surprisingly quick result. No more malarial attacks occurred from the third day after the injection, and the liver and spleen went back in size. Wassermann's reaction, however, remained positive, though of medium strength only, and the later history of the patient showed that malarial parasites reappeared in the blood, and attacks of tertian fever recurred.

The question as to whether the positive Wassermann's reaction in the first illness should be taken to indicate a syphilitic as well as a malarial infection is decided in the negative. Boehm found Wassermann's reaction positive in 35.5 per cent. of non-syphilitic cases, and the present case is another instance of the same thing. The treatment in the first attack led to a permanent cure of the pernicious malaria, as shown by the freedom of the blood from crescentic bodies in the later illness and the purely tertian type of the second illness, which started after a fresh infection. Wassermann's reaction was, therefore, completely positive when the tropical parasites were present in the blood and became negative on recovery, while during the tertian fever the reaction was strongly positive, but became much reduced in strength when the disease was still present, but in a latent stage.

The author therefore finds: (1) That eosinophilia and mononucleosis of the blood may be signs of a latent malarial infection. The number of eosinophiles is in malaria dependent on the measure of the erythrolysis. (2) Wassermann's serum reaction may be completely positive both in tropical and in tertian fever, and can be taken, in conjunction with the blood condition, as an indicator of recovery or otherwise. (3) Arsenic is a specific poison to the malarial parasite, and protracted intramuscular injection of enesol can bring about complete recovery from tropical fever. (4) Ehrlich's preparation, injected during an attack of benign tertian fever, led to a cessation of attacks, but not to permanent recovery. In either form of malaria, however, injections of arsenic are to be tried when there is an idiosyncrasy against quinine.—British Medical Journal.

Iodine and Peritoneal Adhesions.

Propping is of opinion that the iodine methods of disinfecting the skin of the abdomen indirectly favor the formation of peritoneal adhesions (*Zentralbl. f. Chir.*, May 13th, 1911). The iodine gains entrance to the cavity either by the bowel lying in contact with the skin or by the flushing of the field of operation with saline solution. After referring to the use of iodine in promoting adhesions between serous surfaces, he records his experimental results. The injection into dogs of 20 drops of tincture of iodine in 80 cm. of saline solution was followed in forty-eight hours by the formation of numerous adhesions in the region of the liver and stomach. The small intestine was free from adhesions, but this was probably due to the restlessness of the animals, and it would not occur in a patient after operation. In Rehn's clinic, since the introduction of the iodine methods, 6 cases of ileus, due to kinking or adhesions, had occurred out of 70 cases of appendicitis; in 300 cases not prepared with iodine only 5 instances of mechanical obstruction had been met with. The adhesions also tended to favor the occurrence of residual abscesses.—*Edinburgh Medical Journal*.

The Cells of Betz in Mental Diseases.

In the course of a systematic examination of the cortex in various forms of insanity Ladame has come to the conclusion that their condition is in exact correlation to the degree to which the muscular system has shown symptoms of disturbance from the normal.

The state of these cells in various mental cases may be classified under three groups. 1st. Those in which the cells are normal. 2nd. Those in which they are diseased. 3rd. Those in which they are more or less altered. In the first group are included all those patients who show no sign of organic disease of the muscular system. To this group belong imbeciles, cases of dementia praecox, confusion, melancholia, manic-depressive insanity. To the second belong all cases which show general muscular paralysis, cachexia, or marasmus. Such are cases of general paralysis, senile dementia, some cases of dementia praecox, of arteriosclerosis, and of profound idiocy. To the third group, in which some cells are normal, others profoundly altered, belong cases of the preceding group in their earlier stages. Ladame regards his conclusions as confirming the view already generally accepted regarding the function of the cells of Betz. He also is of opinion that the lesions to which the psychoses are due must be

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Care Charlotte Medical Journal.

sought in a study of the cellular layers which form the architecture of the cerebral cortex.—Glasgow Medical Journal.

Medicine an Exact Science.

It is a commonly accepted dictum, and until recent years one well founded in fact, that medicine is an inexact science, and for long the medical profession could offer no refutation of the argument that their calling was more of an art than a science. But what extraordinary changes have been wrought in the methods of medicine in the past two or three decades! No longer need the wearers of the caduceus suffer the opprobrium of being called workers in an inexact field. Beginning with the revelations of bacteriology, medicine has gone forward with Brobdingnagian strides, and while it cannot as yet be classed with the altogether exact sciences, of which mathematics is the best example, yet we can now point with certainty and assert without fear of controversion, to the exact causes of many diseases, can prevent the occurrence of various of these by the use of exact measures, and in many of them when they have developed can bring about a cure through exact forms of treatment.

It is quite true that there are very few diseases for which we have exact and positive specifics, but these few have been among the most fatal and widely prevalent known, and the successful development and application of exact measures of treatment for these has opened a field of therapy that is destined to be exploited in the fullest possible manner, doubtless with most gratifying results, in the next few years.

Much to the distress and regret of the medical profession, although the discovery of its specific cause was among the earliest of the bacteriologic caused diseases announced, for pulmonary tuberculosis, the

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is especially valuable when there is torpidity of the bowels or intestinal sluggishness arising from organic derangement of the liver, kidneys or central organ of circulation. It is the best agent for the relief of that form of costiveness that is ushered in by an attack of colic and indigestion, and not only clears away the effete and irritating agents lodged in the alimentary tube but eliminates the semi-impregnated bile that, too frequently, induces the so-called "bilious" condition; at the same time an abundant secretion of normal bile is assured, thereby demonstrating its value as a liver stimulant and true chologogue.

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greatest and most universal of the destroyers of mankind, a specific treatment has not yet been found; but in the light of the discoveries of the past, we can surely expect that a serum that is curative in tuberculosis shall yet be discovered.

If the past two decades of medicine had given no other great discoveries than the antitoxin for diphtheria and anti-meningitic serum, the one to the credit of the German profession, as represented by Behring, and the other to that of the American, in the person of Flexner, the medical profession could rest content for a long period, for these discoveries are in the nature of exact therapy, and are reducing the mortality in diphtheria and cerebrospinal meningitis to a minimum. Flexner's serum is too recent a discovery to be credited with the efficacy of diphtheria antitoxin, but the results have been so satisfactory that we are justified in looking forward to improvement instead of lessening in the quality of the statistics pertaining to its use.

Then we have salvarsan, which while its too enthusiastic advocates with their extraordinary claims for the agent, promised at first almost to cause it to suffer the fate of Koch's tuberculin, yet possesses such unquestionable specific properties in the treatment of syphilis, at least in causing the immediate clearing up of the secondary lesions, that we can regard it as an epoch-making and exact method of therapy.

We have merely mentioned the leading forms of exact therapy discovered within the past two decades, and have neglected to consider various other particular lines of treatment developed in this time, and which all tend toward the placing of medicine in the category of an exact science, and now we turn briefly to the consideration of various exact measures of diagnosis which have been the result of investigations of the past twenty years, and which have been brought to a point of development where they cannot be considered other than exact.

It is harking back rather far to go to the cause of malaria, but nowadays we have the study of blood so highly developed that there is no occasion for pouring great quantities of quinine into abused stomachs and systems in types of continued fevers when we can rely so thoroughly upon the microscopic findings from blood study to show us whether malaria really exists and that the necessity for quinine is present. Then we have the blood count and hemoglobin estimate for diagnostic purposes; we have the Wassermann reaction for determining the presence or absence of syphilis; we have the microscopic examination of sputum for tuberculosis, the bacteriologic investigation of throat exudates, and endless diagnostic

measures of more or less reliability, all leading to exactness in medicine.

In the field of prevention medicine has achieved perhaps its greatest distinction and claim to be regarded as an exact science, for the discovery of the mosquito as a host and transmitter of the infections of malaria and yellow fever has been followed by the most brilliant results in prevention. These results have been most conspicuous in Cuba and Panama, for in the cities and towns of those countries the prevention of the breeding of the particular species of mosquito conveying these infections, and the sanitary policing of certain districts, has resulted in the practically complete elimination of both malarial and yellow fevers. We know the cause and how to prevent the transmission of these diseases, and by the application of exact measures of prevention, an infected district can become a zone of immunity. And now latterly remarkable results are being obtained in the prevention of typhoid fever by vaccination of healthy individuals with a serum prepared from typhoid bacilli. The results of the tests made with vaccine in the British army in India, and in our own army, have been such as to establish beyond question the fact that immunity to typhoid is conferred in a very large degree, and for a period approximately the same as that for smallpox, by this vaccination. We have learned heretofore that we can prevent typhoid by boiling the water and milk that we drink, but this is not always practicable, yet there is no reason why eventually typhoid vaccination should not be practiced just as is that against smallpox. What greater tribute to exactness in medicine could be asked than is paid by these extraordinary results in prevention?

These are all trite facts to the medical profession, and have but sketchily been presented, for we cite them merely in support of the contention that we no longer quietly should submit to the scoffing statement that medicine is merely an art, for no science has made more strides in exactness within a given period than has that of medicine, which, after all, is the most progressive of all sciences.—Memphis Medical Journal.

In all forms of blood dyscrasia—as indicated by skin disorders, bad healing power and general debility—Ethol often proves effective when other treatment fails. It quickly raises the antitoxic and so-called opsonic power of the blood, increases the resisting power of the tissues and thus minimizes the dangers of bacterial attack. Healing processes are stimulated, and the

“plain words for facts and facts convince.

In the practice of medicine, results count and as pain is the foremost symptom which induces the doctor's call, its prompt relief is the most convincing argument of his ability.

Pain, one of the cardinal symptoms of inflammation, is the result of nerve pressure from infiltrated tissues. Its relief by the application of hot moist heat, so superiorly presented in the form of antiphlogistine, is prompt and positive.

In Tonsilitis, Bronchitis and Pleuritic involvements, the results obtained by the use of antiphlogistine have convincingly demonstrated its value over other forms of applying moist heat, and the reliance and confidence accorded it by the medical profession are but a further proof of its superior therapeutic worth.”

whole economy is materially improved in its vital details.

The Choice of an Antitoxin.

No therapeutic agent which the physician uses today needs to be selected with greater care than the serums. These products must not only be individually specific, produced from specific germs or their toxins, but they must be pure—elaborated in the blood of perfectly healthy animals. The preparation of prophylactic and curative serums should never be intrusted to the inexperienced or to those who are hampered by lack of facilities. In choosing an antitoxin the practitioner should consider only serums of known reliability—products into which no element of conjecture enters. His own interests and those of his patient demand this.

With reference to diphtheria antitoxin it is noted that Parke, Davis & Co., in their current announcements to the medical profession, feature both the "serum," which they have produced unchanged for many years, and the newer "globulins," the two products being presented apparently upon even terms, without favor or prejudice to either. In explanation of this the manufacturers point to a division of sentiment on the part of practitioners, some of whom indicate a preference for the older serum, while others favor the globulins. In point of efficiency the two products stand upon an equal footing, each being of definite antitoxic strength. Having no desire to influence the judgment of physicians, and in line with their well-established policy to meet the wants of the profession, Parke, Davis & Co. announce that they will continue to furnish both.

The Alkaloidal Treatment of Pneumonia.

Dr. William J. Johnson, of Uxbridge, Mass., says in the *Journal of Therapeutics and Dietetics* that alkaloidal medication in pneumonia is a protest to the orthodox views both on the course of the disease and concerning the value of drugs. The adherents of positive therapeutics are convinced that the course of the disease can be so largely modified, by appropriate medication, that all and, indeed, many of the expected symptoms and conditions do not appear. Alkaloidal medication strikes at the root of the trouble, endeavors to foresee and prevent the changes that naturally appear in a typical case of pneumonia and does not wait for the symptoms to develop and the results to be manifest. For fever we use aconitine, 1-134 grain, one granule every fifteen minutes, half hourly or hourly, until lowering of pulse rate, reduction of temperature, sweating and lessened pain

occurs. Combined with this we use strychnine, 1-134 grain, and digitalin, 1-67 grain, for its tonic action and supporting the heart. The other important remedies are emetine, 1-67 grain, and codeine, 1-67 to 1-12 grain hourly to relax spasm, control nervous symptoms, quiet and loosen the cough. As the fever subsides and the cough becomes looser, calcium sulphide 1-6 grain every two hours is such a valuable and important remedy that it should always be used, and its action will not disappoint the careful user. After the acute symptoms have subsided, glonoine, 1-250 grain, is a most valuable remedy, sustaining the vitality wonderfully, prompt and reliable in its action. These are our standard remedies for this disease. They offer a definite amount of a single distinct alkaloid to counteract a definite disease with structural lesions. Their action must be carefully watched, must be changed or modified by the course of the disease, and they produce results at once marked, rapid, and permanent.

It goes without reason that the nutrition and hygiene of the patient requires attention, nor are external applications to be despised. The alkaloidal remedies are so positive in their action that we can dispense with alcohol, which at best is an uncertain and treacherous ally.

Sodium Salicylate the Remedy for Rheumatism.

"When a diagnosis of rheumatism has been made, it then behooves one to cast about for some agent that will quickly arrest the process and avert complications. For this, one remedy stands out pre-eminently—namely, salicylates. Preference should be given the sodium salt. Some do not regard this favorable and it is these who have an instrument they do not know how to wield. Plehn has pointed out the "stumbling block" for these, showing that success depends upon adequacy of dosage, and he further observes that the salicylates are as much a specific in acute articular rheumatism as quinine in malaria or mercury in syphilis."

"One strong objection advanced is the inability of the patient to retain the medication because of the nauseating effect. Sodium salicylate has a very sickening sweet taste and should never be administered except in the form of a solution."

The natural salicylic acid in Tongaline will not cause the disturbances that accompany the use of the synthetic product, which is invariably dispensed unless the natural salicylic acid is specified. Hence Tongaline is a most desirable vehicle for the administration of natural salicylic acid.

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Maxima cum cura commixtus semperque idem.

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The Late Dr. Frank P. Foster, of New York City.

In his "Reference Book of Practical Therapeutics" compiled by our old friend, the late Frank P. Foster, A. M., M. D., we note the following: "Antikamnia Tablets have been much used and with very favorable results in neuralgia, influenza and various nervous disorders. As an analgesic they are characterized by promptness of action, with the advantage also of being free from any depressing effect on the heart. As an antipyretic they act rather more slowly than antipyrine, but efficiently."

We are pleased at this expression of faith in the efficacy, promptness and absence of untoward after effects of this most excellent remedy and we feel that the statement applies not only to Antikamnia Tablets, but also to Antikamnia & Codeine Tablets.

Radium and Cancer.—Morton states that some varieties of cancer are much more responsive to radium than others. With few exceptions it is in the slow growing cases that it acts best, and in which a diminution in size may be expected. Unfortunately we have no statistics of the number of cases in which it fails. That failure occurs not infrequently even with large quantities of radium is well known. We know also that it does not always cure the comparatively benign rodent ulcer or prevent its recurrence. At present the position of radium therapy seems to be of undoubted value in many cases, its chief function is in aiding and not in excluding the other recognized methods of treatment. Until it can be proved that relapse and metastasis are not more common after regression from radium than after excision, the method must be reserved for those cases in which operation is contraindicated and for recurrences. Apart from the question of the curative effect of radium, there is one point of practical importance which deserves attention. It is that in the case in which radium acts beneficially it acts at once. Within fourteen days of the beginning of the treatment an unquestionable diminution in size will be found in all cases in which radium is able to exert a regressive effect. Occasionally this decrease is seen as early as the third day. If no improvement is apparent in this time further treatment is useless, except, perhaps, for its palliative effect. There appears to be no other certain means of fortelling in the individual case the result of radium treatment and he has found this test application very useful in determining the advisability of a prolonged and necessarily expensive course of treatment. It will be of still greater value if radium fulfills expectations and its re-

sults are found to be permanent, in deciding the question of operation.—British Medical Journal.

Treatment of Muco-Colitis.

Veale, in a paper on the treatment of muco-colitis, regarded the condition as a secretion neurosis, and attributed the general symptoms to auto intoxication following the putrefaction of food particles entangled in the retained membranes. The Presence of the membranes also led to spasm and distention of the intestines, so that a vicious circle was set up.

In the treatment as carried out at Harrogate the bowel was irrigated three times a week with about 30 oz. of the alkaline sulphur water, which was run very slowly through a Plombier tube at a temperature of from 96° to 102° F. from a height of 2 ft. The patient lies first on her right side; then on her back, and then on the left side, remaining in each position for two minutes. The fluid was retained for ten minutes, and after it had been ejected the process was repeated. The attendant examined and reported on the washings. The irrigation was followed by a warm sulphur bath with a submassive douche to the abdomen. If constipation was present a small dose of blue pill was given at night, and the hot sulphur water in the morning. The result of this treatment was great improvement in the local and general symptoms. Some times more than one course (of about three weeks duration) was necessary, or the patient could be taught to irrigate the bowel herself, using artificial sulphur waters; while massage could to a certain extent replace the submassive douche. The diet prescribed was one that left no irritating residue. Fat, pastry, and all green vegetables (except spinach) were prohibited. The patients should take moderate exercise. Drugs were avoided as much as possible, thought sometimes a tonic or the iron waters were given. All pelvic disorders received their appropriate treatment. Savill used very large intestineal douches in the treatment of muco-colitis, beginning with one and increasing to five or six pints. The sense of exhaustion that followed was removed by the subsequent application of the high-frequency current. With regard to diet, the speaker recommended cutting off all meat proteids, and giving farinaceous food and milk for a week or ten days, then cream cheese and milk only for a few days after which a return should be made to the farinaceous diet. Some patients did well on lactic-acid milk. The importance of treating constipation was emphasized. Pituitary extract had been found useful in some atonic cases.—British Medical Journal.

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Mammary Hypertrophy of Puberty.—

Caubet (Arch de med. des enf. mentions a somewhat rare disease of the mammary glands which occurs at puberty, in which there is an immense enlargement of the breast, so great that amputation becomes necessary to relieve the young girl of an immense burden. The breast become so large and pendulous that they reach the abdomen, sometimes the knees; the patient may be unable to stand and carry the weight of the glands and may even have to remain in bed. At the same time the structure of the mammary glands is so changed that they would be unable to functionate. The glands sometimes grow very rapidly, reaching an immense size in a few months. Puberty seems to be the cause of this increase in size. Menstruation is generally absent from the beginning of the growth, and the patient become thin and weak. Heredity seems to have some influence, the mother being affected in the same way in some cases. There is a simple hypertrophy of the gland with passive edema, the gland and connective tissue both talking part. Subjective symptoms are slight. No treatment except amputation is of any value in these cases.

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This fraud, which was exposed at an action tried before the Supreme court of Victoria at Melbourne, and others reported before in the medical literature, show that every physician should see that his patient gets exactly what he prescribed. No "just as good" allowed.

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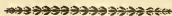
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SOUTHERN SURGICAL and GYNECOLOGICAL ASSOCIATION.

Annual Meeting at Washington, D. C., Dec, 19 21, 1911.

W. D. Haggard, M. D., Sec., Nashville, Tenn.

Rudolph Matas, Prest. New Orleans, La.

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Annual meeting at Hattiesburg, Miss. Nov. 14-15-16, 1911.

Oscar Dowling, M. D., Sec. Shreveport, La.
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TRI-STATE MEDICAL ASSOCIATION OF THE CAROLINAS AND VIRGINIA.

Annual Meeting at Columbia, S. C., Feb. 23-24, 1912.

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MEDICAL ASSOCIATION OF THE STATE OF ALABAMA.

Annual meeting at Birmingham, Ala., April, 19 1912. J. N. Baker, M. D., Sec., 602 S. Perry St., Montgomery, Ala.

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Annual Meeting at Oklahoma City, Okla.

October, 1911.

F. H. Clark, M. D., Sec., El Reno, Texas.
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FLORIDA MEDICAL ASSOCIATION.

Annual meeting at Tallahassee, Fla., May, 10, 1911.

J. D. Fernandez, M.D., Sec., Jacksonville, Fla.

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MEDICAL ASSOCIATION OF GEORGIA.

Annual Meeting at Augusta Ga., April, 17-18-19 1912.

W. C. Lyle, M. D., Sec. Augusta, Ga.

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KENTUCKY STATE MEDICAL ASSOCIATION

Annual meeting at Paducok Ky., Oct. 1911.

Arthur T. McCormack, M. D., Sec., Bowling Green, Ky.

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LOUISIANA STATE MEDICAL SOCIETY.

Annual meeting at Shreveport, La.,

May, 30-31, June 1st, 1911.

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Annual Meeting at Jackson, Miss, April 11, 1912.

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MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA.

Next Annual Meeting at Hendersonville, N. C. June, 1912.

A. A. Kent, M. D., Pres.

Lenoir, N. C.

D. A. Stanton, M. D., Sec., High Point, N. C.

NEW MEXICO MEDICAL SOCIETY.

Annual Meeting at Las Vegas, N. M., (date not yet decided.) 1911.

Dr. R. C. McBride, D. Las Cruces N. M. Secretary.

F. B. Test, M.D., Prest, E. Las Vegas, N. M.

SOUTH CAROLINA MEDICAL ASSOCIATION.

Annual meeting at Columbia, S. C., April 20, 1912.

Edward A. Hines, M. D., Sec., Seneca, S. C.

J. W. Jervey, M. D., Pres. Greenville, S. C.

TENNESSEE STATE MEDICAL ASSOCIATION.

Annual Meeting at Nashville, Tenn., June 11, 1911.

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MEDICAL SOCIETY OF VIRGINIA

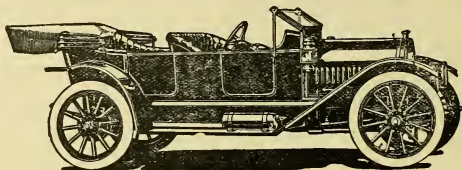
Annual Meeting at Richmond, Va. Oct. 24-27, 1911.

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The Charlotte Medical Journal

VOL. LXIV

CHARLOTTE, N. C., NOVEMBER, 1911.

No. 5

Gastro-Enterostomy — Technique of the Operation with Use of a New Instrument.

By Addison Brenizer, A. B., M. D., Charlotte, N. C.

Mikulicz exposed in the *Deutsche Klinik von Leyden und Klemperer*, 1904, the importance of the gastro intestinal surgery of today. And since this time the practicing physicians of the last years are coming more and more to the opinion that the great majority of stomach affections can be treated only through mechanical, that is, surgical procedures.

Earlier, most chronic stomach troubles were thrown rudely into a pot labelled, "Catarrh of the Stomach." But it is understood now that the inflammation is not primary but due in the large proportion of cases to simple mechanical disturbance; above all, to stagnation of the contents and difficulty in emptying the stomach. Internists, such as Kussmaul showed the way of relief by treatment of evacuation with the stomach tube and lavage. In place of this treatment so prolonged and at the same time so unsatisfactory in its lasting effect, surgical means are now accepted as quicker and as producing a surer lasting cure. The surgical treatment of the stomach for the purpose of restoring favorable mechanical conditions controls the field of gastric surgery.

Holding first place among the operations on the stomach is the gastro enterostomy, inaugurated by Wœlfel on the suggestion of Nicolodini in 1881. That the brilliant results of the operation were obscured in the hands of several surgeons, is not to be denied and was due to insufficient indications for its performance and to the undeveloped technique of the time. At present, it is granted by the best surgeons and internists, where the indications are clear, that immediate and lasting help is to be awarded only from this operation.

It is of much more importance than the fact that the necessity of mechanical procedures are overlooked, that the majority of stomach tumors, especially cancer are treated in the beginning as catarrh of the stomach and thus the proper treatment neglected with loss of the precious time. This negligence will be abandoned only when every practicing physician learns to make an early diagnosis and to always keep in mind that every gastric catarrh has a cause, usually not primary in the mucous membrane itself but secondary to some other

disturbance. If the trouble does not lie in the chemical or other direct injury, as the taking of alcohol, wrong diet or some bodily disease, which influences the activity of the stomach indirectly, then a mechanical factor is the cause.

Gastro-enterostomy is not only the operation most frequently done on the stomach but satisfies the greatest needs through restoring better nourishment to the patient, in relieving the disturbing mechanical factors. It is most frequently indicated in ulcer simplex ventriculi and its sequellæ and here demonstrates its triumph. It is an important necessary help in carcinoma ventriculi, when a radical operation is no longer possible. The several indications may be tabulated as follows:

I. Immediate operation:

(a) Obstruction due to simple or congenital stenosis, congenital atresia, cicatrized ulcer.

(b) Tumor from within or without or adhesions causing obstruction.

II. After failure of medical treatment:

(a) Acute and chronic gastric ulcer.

(b) Persistent spasm of the pylorus with dilatation and atony with dilatation.

(c) Marked and persistent hyperchlorhydria.

Mayo Robson shows a series of 200 operations with a mortality of 3.4% and again 100 cases with a mortality of 2%. Kocher, in Berne, shows a series of 92 cases of gastro-enterostomy for non-malignant affections with only three deaths, two due to hemorrhage from an existing bleeding ulcer and one due to pneumonia following an ether anaesthesia.

As seen, the indications are many and the results often wonderful.

My experience is one of but 17 cases, with not a single death following the operation within two months, but death within a year in three cases of cancer not suitable for removal. Only one time was a second operation necessary for vicious circle.

There is no more danger in the operation itself but only in complications from the side of general and local conditions, which latter can be avoided by the choice of the proper operation and the proper technique in carrying out this operation. To avoid complications such as regurgitant vomiting and vicious circle, contraction of the new orifice and adhesions, it is demanded simply that the anastomosis be made between the most dependent portion of the posterior wall of the stomach over the antrum and the

first loop of the jejunum distal to the duodeno-jejunal fold through a rent in the transverse mesocolon. (This relation of viscera is shown in plate I.) The opening between stomach and intestine should be large. The outflow of gastric and intestinal contents and bleeding be absolutely prevented. The apposition and union be perfect.

The difficult parts to carry out in the operation are:

(1) Holding and maintaining the omentum and transverse mesocolon above the field.

(2) Passing a sufficient surface of stomach through the transverse mesocolon and holding it there so as to make the necessary wide opening.

(3) Preventing the outflow of any stomach or intestinal contents.

(4) Control of hemorrhage.

With the operation of choice, the posterior gastro enterostomy, with the use of the instrument shown on plate II, figures A, B, and C, and following the technique I shall describe, all demands may be perfectly carried out.

The instrument may be equally well employed in doing an anterior anastomosis where the posterior is impossible, as will appear evident on considering the instrument.

TECHNIQUE OF POSTERIOR GASTRO-ENTEROSTOMY WITH EMPLOYMENT OF THE INSTRUMENT.

The abdomen is opened by an incision about five inches long and one inch to the right of the middle line, beginning about two inches below the costal arch and extending the mentioned length to above the naval. The stomach is exposed, below which is the transverse colon and the omentum covering the loops of the small intestine.

The prongs of the instrument are opened on their hinge, the superior prong grasping the closed elliptical band, plate II, figures A, B, and C. The elliptical band mounted on the prong is pushed up, gathering omentum and transverse colon on its prong, and applied to the transverse mesocolon and with this structure interposed to the posterior wall of the stomach, directly in the middle line of the body. The convex hemisphere, elliptical and corresponding in shape to that of the band and made to fit into it, carried on its prong, is applied to the anterior wall of the stomach, opposite the band. The two prongs are pressed together, articulating on their hinge and thus carrying interposed between hemisphere and band from before backward, the anterior and posterior walls of the stomach and the transverse mesocolon. Now the omentum and transverse colon, held loosely between

the locked prongs of the instrument, are carried upward out of the field as the instrument is everted.

The small intestines are exposed and the first loop of jejunum distal to the duodeno-jejunal plica is chosen and clamped with an intestinal clamp, plate I.

The thumb screw is tightened just enough to produce a slight paleness of the transverse mesocolon seen within the band.

The omentum, transverse colon and stomach thus held in the grasp of the instrument may be moved with perfect control of the field.

A vertical slit is made through the transverse mesocolon, exposing the serous covering of the posterior wall of the stomach and the slit held wide open by a stitch to either side.

Stomach and intestine are approached, a strip of gauze laid between them, and apposed by a continuous silk suture. The region is packed off with gauze. Parallel incisions are made into the stomach and intestine about two inches long down to the mucous membrane. Another continuous silk suture is laid, uniting muscular coats of stomach and intestine along the lower lips of the incisions and ends left long at each angle. Now the mucous membrane is opened, the small amount of intestinal contents sponged away, using at each touch of the sponge a new one, for fear of soiling the region. The mucous membranes of the stomach and intestine are united by an in and out continuous catgut suture. The mucous membranes are closed all the way round and the opening between stomach and intestine established. (It is best to discard the instruments used in opening the mucosa as they carry some contamination). The second and first continuous silk sutures are picked up and continued all around the anastomotic opening, uniting first the musculature and serous coverings and reinforced by the continuance of the first suture dipping down through the muscularis mucosæ. Especial attention should be given in rounding the angles, that the union be secure. The anastomosis is firmly established through the elliptical band that surrounds the opening on the outside and must be removed.

Removing the elliptical band and instrument is quite a simple story, as simple as removing the intestinal clamp. The thumb-screw is loosened, thus allowing the two prongs to open on their hinge. The two arms of the prong bearing the band are pulled apart and the band allowed to fall free. The band in turn is opened on its hinge and slipped from around the anastomosis between stomach and intestine. The intestinal clamp being removed, the omen-

tum is allowed to drop back in place.

The abdomen is closed by a continuous catgut suture uniting the peritoneum, interrupted catgut sutures for the faciae and the skin apposed by means of the small silver clamps of Michel.

After the second day the patient begins to take liquids in small quantities by mouth. The silver clamps are removed on the fourth day. The patient should reach his feet on the tenth day and leave the hospital on the fourteenth day.

(3) Preventing the outflow of any gastric contents.

(4) Controlling hemorrhage.

It offers no disadvantage and every advantage over the ordinary stomach clamp, the manipulation of which is difficult and risky.

Description of Plates.

Plate I shows the omentum and transverse colon raised up, the relation between the posterior wall of the stomach, seen

PLATE I.



The advantages of the operation are:

Those points, before mentioned, as difficult to overcome and to this end the instrument was devised. These difficult points in the technique were:

(1) Holding and maintaining the omentum and transverse mesocolon above the field of operation.

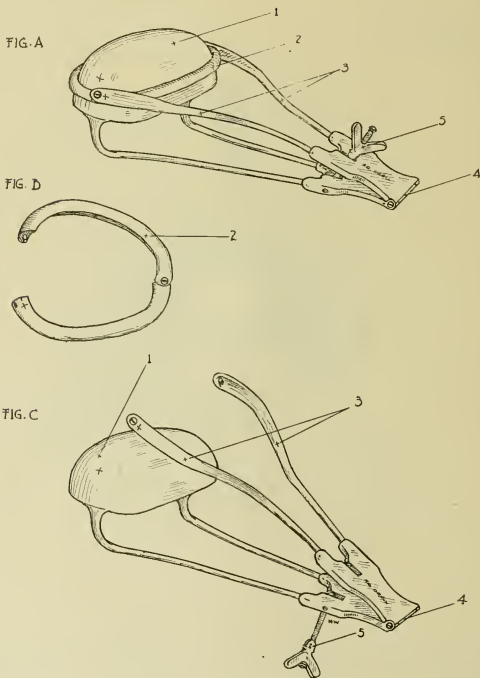
(2) Passing a sufficiently large surface of stomach wall through a slit in the transverse mesocolon and maintaining it there, so as to make the necessary wide opening.

through a slit in the transverse mesocolon and the first loop of the jejunum distal to the duodeno-jejunal plica. The instrument is in place and the intestinal clamp applied. It is clearly shown how the omentum and transverse colon are held out of the way between the prongs of the instrument and how the posterior gastric wall is pushed through the slit in the transverse mesocolon by the convex hemisphere being made to approach and appose the elliptical band, and how it is held between these two parts

of the instrument. The numbers correspond with those of Plate II, figures A, B and C. The hemisphere and the band are carried and supported on (3) the two prongs working on (4) a hinge and locked by (5) a thumb-screw. The superior prong grasps the band between its arms by the fitting of

Figure C shows the thumb-screw released, the two prongs opened on their hinge and the band removed from the grasp between the arms of the superior prong.

PLATE II.



band corresponding in shape fits snugly. The hemisphere and the band are carried and supported on (3) the two prongs working on (4) a hinge and locked by (5) a thumb-screw. The superior prong grasps the band between its arms by the fitting of

Figure B shows the band itself opened on a hinge at one extremity and the break in the band at the other. One of the little pits for receiving the pegs on the arms of the superior prong is indicated. The numbers in all four figures correspond.

The Differential Diagnosis of Pellagra.*

By J. J. Watson, M D., Columbia, S. C.

The diagnosis of pellagra when the characteristic group of symptoms are present is now an easy matter. The same is true of almost any other disease. But unfortunately, we do not often see clinically the text-book pictures of diseases, for one symptom often takes such a prominent place in the clinical picture as to overshadow the minor ones, in other words, typical cases of any disease, though rare, are of easy diagnosis. It is the general run of atypical cases that call for diagnostic acumen. Thus while the headache of typhoid fever may obscure the other symptoms and mislead the apprentice, it should not shipwreck an old sailor.

The differential diagnosis of any disease presents more difficulties than the mere tabulation on paper of the diagnostic symptoms of that disease, for clinically we must consider not only the predominant symptom, or symptoms, but also the minor ones, and by a process of reasoning and elimination determine which one of several maladies is most likely to produce the condition presented by our patient. The existence of pellagra without the eruption has been affirmed and denied for one hundred years by equally good observers and the status of this condition is today perhaps as uncertain as it was in Europe decades ago. Pellagra is notoriously a disease of variations, as well as of remissions and exacerbations, and this fact just at the present time should occupy a high place as a golden text in our memories and diagnostic tables. Without the presence or history of the skin lesions we are often sorely puzzled when dealing with what later experience and investigation proves to be pellagra.

In view of our limited experience with this disease, we must still guard ourselves against dogmatism, but my observation has taught me to believe that if by *pellagra sine pellagra* we mean the presence of the pellagrous intoxication without the skin stigmata, then we are oftener face to face with masked pellagra than we suspect.

Pellagra is as protean as is hysteria; and just as we often suspect hysteria from our knowledge of and experience with its nervous and mental manifestations, so I am inclined to think we are learning to suspect pellagra when brought face to face with sudden and unusual neurotic and psychic phenomena. But it is in just these highly interesting, but perplexing, cases that a

complete and accurate history of the patient extending over several years is of paramount importance.

To illustrate: Mrs. W., 34 years old, native and resident of South Carolina, was seen in June, 1910. She was in a state of afebrile acute delirium, profoundly depressed and suicidal. I was very much puzzled by her condition until I obtained a history of diarrhoea, sore mouth and eruption on the hands, having occurred the March previous. Without such a history, one would have been excusable for making a diagnosis of acute insanity. The delirium was probably due to starvation from sitophobia, and to prolonged insomnia, both being consequent upon the pre-existing attack of undoubted pellagra. She rapidly (and so far permanently) recovered with the aid of hypnotics and forced feeding and has so far remained well.

In considering the differential diagnosis of pellagra, I will first take up some of the diseases that I have seen mistaken for pellagra and vice versa:

Erythematous eczema.

Erythema multiforme.

Dermatitis Venenata.

Erythematous lupus.

When the skin manifestations of pellagra are well marked, and the other systematic symptoms are present, there should be no difficulty in differentiating it from any other skin disease, for in no other dermatosis do we have the nervous and gastro-intestinal derangements that we find in pellagra. It is not in all cases, however, that we find the same prominence of symptoms, referable to the three portions of the body; for instance, in one case we may find severe skin lesions, with only very slight disturbance in the digestive tract or nervous system, or we may find severe gastro-intestinal derangement with mild skin and nervous manifestations, or we may encounter another class of cases with severe mental depression, and otherwise mild symptoms. It is the variation in severity of symptoms, especially when we see cases with mild skin lesions, and practically no symptom complained of, that we are likely to call the condition eczema.

The only type of eczema worth our consideration is erythematous eczema, when it affects the hands or face. In this condi-

*Read by invitation before the 1911 meeting of the Florida State Medical Society.

tion, we would not have the tongue, or digestive phenomena, that occur in pellagra, and while these symptoms may be very mild a history of their presence can be obtained if the patient is properly questioned. There are many points of difference between the erythema of pellagra and erythematous eczema, but the most important one is the line of demarcation between the erythematous area and healthy skin in pellagra, whereas, in erythematous eczema there is no line of demarcation; the erythematous area merging into the healthy skin almost imperceptibly. The itching in eczema is marked, whereas pellagrics if complaining at all only refer to the slight burning of the skin lesion; it never itches. Eczema has not the tendency to assume the light chocolate color that is so characteristic of pellagra. In erythematous eczema, as in other forms of eczema, you are very likely to find other eczematous lesions on the body.

Erythema Multiforma.—Like pellagra the lesions are symmetrical, most frequent upon the extensor surface of forearms, hands, legs and feet; not accompanied by marked subjective sensations. It differs from pellagra in that the erythematous lesions are markedly raised and the skin between the various lesions is of normal color.

I have histories of six cases of pellagra that had been treated for the dermatitis due to poison oak; this error could have been easily avoided by ascertaining that none of these cases had been where they could have encountered the plant, and also by remembering that the vesicles first occur between the fingers and extend from this point, and that in pellagra we do not have vesicles, but large bullae.

Lupus Erythematosus might cause some confusion but only when the pellagrous erythema attacked the face, producing the characteristic lesion across the nose; this, however, is practically impossible, without the hands being affected at the same time, which of course would at least arouse the suspicion of pellagra and a search for other stigmata of the disease would be made and if found would dispel any doubt that might exist.

Diseases confounded with pellagra, when there is no skin eruption:

Typhoid fever.

Neurasthenia.

Melancholia.

Acute delirium.

Hysteria with mental episodes of excitement—insufficiency and mutism.

Menigitis.

Pernicious anemia.

Typhoid Fever.—In the beginning of typhoid, we do not have the symptoms that often supervene during the course of pel-

lagra, but during the second and third week of typhoid it is not at all unusual to see marked abdominal distention, diarrhoea, delirium, both active and muttering, with or without rigidity of the neck and limbs. This same picture is very closely simulated by some cases of pellagra that run temperature, which of course offer no difficulty of diagnosis when the characteristic lesions are on the hands, but in the absence of them, and without a previous history of skin eruptions, and digestive disorders extending over a long period of time (for this is usually the terminal stage of the disease) the condition could be very easily, and has been frequently, taken for typhoid. Still more perplexing are those cases of pellagra with the above symptoms in which there occurs hemorrhages from the bowels. The fact must not be lost sight of, however, that pellagrics do have typhoid, two such cases having come under my observation in 1910. A careful history of the case, together with the presence or absence of the Widal reaction, will clear up an otherwise perplexing situation.

Neurasthenia.—While I recognize the fact that there is such a clinical entity, the diagnosis should not be made by any except an expert diagnostician, and then only after a most searching examination, by all the methods at our command have proved the absence of any disease that might produce the symptoms of easy fatigue, both mental and physical. Such a condition may constitute the prodromal stage of pellagra as it does of many other diseases. In fact, pellagra is characterized by neurasthenic symptoms throughout its entire course. In some cases the neurasthenic element with its various gastro-intestinal manifestations constitute the only symptoms until the eruption announces the actual malady.

Depression (Melancholia).—Mental depression may be an advanced condition of the neurasthenia already described, and has been frequently considered a true melancholia, or it may be an early symptom of pellagra; especially in those which rapidly pass into one of several types of insanity.

Acute Delirium.—This may occur in any infectious disease and in these conditions there is always temperature usually high. In the acute delirium of pellagra there is usually fever, but not always, for I have had two cases of severe acute delirium under my care with no temperature. Here, as elsewhere in pellagra, a rapid rise of temperature is of serious prognostic import.

Episodes.—Sudden changes in the ordinary nervous and mental symptoms of pellagra are as characteristic of this disease as they are of hysteria. It is no unusual thing

for a pellagrin who has been apparently normal mentally to suddenly become excited, depressed or delirious, or become obsessed, or present choreiform symptoms; in our more common language hysterical, or in insane cases, the exalted type may give place to depression, mutism or catatonia. This tendency to mutism is not confined to insane pellagrus, and often when they are not mute the retardation of thought and slowness and hesitation of speech are as suggestive of the presence of a pellagrous intoxication as is mutism itself.

Meningitis.—Lombroso recognized, cerebral and spinal types of pellagra. These two types in my experience are prone to develop if not tetanic, certainly meningeal symptoms, and without a full history and knowledge of the case together with spinal puncture it would be well nigh impossible to differentiate the condition from meningitis. It is well to remember that this spinal type of pellagra has not only suggested meningitis but also tetanus and even hydrophobia.

Pernicious Anemia.—The anemia of pellagra is of the chloriotic type, and of course there is not the high color index, or the morphological changes in the red cells that obtains in the essential anemias. The progressive weakness, digestive disorders, and paresthesias, together with the chronicity of the anemia, are the only points in common with pellagra; yet I have known the two diseases to be confounded.

Pellagra.*

By L. C. Allen, M. D., Hoschton, Ga.

Gentlemen:—In my opinion the time has come when it would be well for us to cast off some of our pessimism concerning this disease, and present to the public, and especially to the unfortunate people who have this disease, a brighter picture of the malady. It is undoubtedly true that we are in the midst of a pest, for it may be said that this disease is now present in this State in epidemic form. And the problem is a serious one. Pellagra is a mysterious disease, and, to us, a new disease. When this peculiar enemy first made its appearance among us a few years ago, it came so suddenly, and was such a strange monster, and behaved so queerly, that we were frightened, shocked, stunned and routed by it. We knew nothing about it—absolutely nothing. We did not know its cause, its symptoms, its pathology, nor anything to do for it. It had a strange, unpronounceable name, and about all we could learn concerning it for

some time was the unbelievable, inconceivable, and astounding statement that it was caused by *eating corn bread*. The laity, unable to pronounce p-e-l-l-a-g-r-a, very naturally hit upon the expedient of calling it "the corn bread disease." And some of us doctors did the same thing. In vain did we search our libraries in the hope of finding out something of value concerning pellagra; in vain did we eagerly scan the pages of our medical journals as they came from the press each month in the hope of learning something about this new and invincible enemy. There was nothing to be found in book or magazine.

Figuratively speaking, the first battle with this enemy was lost—lost ingloriously, and without a fight. When he came upon us we simply run up the white flag and made an unconditional surrender. What else could we do?

But as Napoleon said at Marengo, "the battle is lost, but there is time to gain another," so although we have lost the first fight, there is time to conquer this enemy yet. And I sincerely believe we are going to do it. We are now becoming familiar with it. We have been watching it, studying it, experimenting with it, and we have learned much. If we have not yet learned how to correctly pronounce p-e-l-l-a-g-r-a (pel-lag-ra), we have at least become familiar with the symptoms of the "corn bread disease." We now know something of its pathology, can speculate with some degree of intelligence concerning its etiology, and what is perhaps more important, we are learning how to treat it with some degree of success. My first patients all died—most of them promptly. This year I have treated a large number, and none have died, and some of them are apparently cured. Hence I feel encouraged.

Definition.—Pellagra may be defined as a trophoneurotic disease, characterized anatomically by a gastro enteritis, a dermatitis, and a neuritis, with degenerative changes in the liver, pancreas, spleen, brain, and spinal cord.

Etiology.—The cause of pellagra is still an unsettled question. However, the following statement may be made: Among the able men who have investigated the subject extensively there is a firm and almost universal belief that the disease is in some way connected with the eating of food products made from Indian corn. This theory may not be true, but the preponderance of evidence in favor of it is so great as to render its rejection impossible until it has been proven untrue by demonstrated truth.

Standard text-books recently published class pellagra among the grain poisoning

*Read before the Ninth District Medical Society, at Jefferson, Ga., Oct. 20th, 1911.

affections, along with ergotism, and lupinosis. Some writers, without regard to its cause, place it among the skin diseases; others place it among the nervous affections, while still others claim it to be a gastro-intestinal abnormality. Until we have more accurate knowledge concerning the primary cause, and the pathogenesis, all attempts to properly classify the disease are futile. While it is true that the skin is affected, and the digestive and nervous systems profoundly involved, these are only effects, apparently, of a general toxæmia. After all, it may finally turn out to be a communicable germ disease. According to my experience, as stated further on, digestive disturbances are, as a rule, the first symptoms of this disease. This would indicate that injury to the gastro-intestinal mucous membrane is the initial lesion. This would further tend to show that unwholesome, or impure, or undigested, or poisonous food is the primary cause of it. In studying the disease these facts are of great importance.

Pellagra occurs in several European countries, chiefly in Southern Europe—Italy, Hungary, Southern France, Spain, Roumania. It is also extensively prevalent in Mexico and Yucatan. It has been reported from 30 States of our Union, but seems to prevail chiefly in the South.

Malaria is a predisposing cause of it. It is oftenest seen in persons of poor general health, and who live amid bad hygienic surroundings. The habitual use of alcoholic liquors is believed to predispose to it. Pellagra occurs in both sexes, and is not uncommon in children at from five to ten years of age. I, myself, have not seen a case in any child under six years old. I have seen only one case in the negro race. This was a pronounced case. But it recovered last year, and has not returned. The history of pellagra for over 200 years shows it to be a disease of warm climates. It universally makes its appearance in the spring or early summer, and subsides in the fall when cool weather approaches.

Symptoms.—The symptoms of pellagra may be set down under four heads:

1. Gastro-intestinal.
2. Cutaneous.
3. Nervous.
4. Mental.

(1) In a well developed case there are digestive disturbances, anorexia, sometimes vomiting, and the tongue is red, sore, beefy. In some cases there is marked salivation, with much troublesome spitting. Epigastric pain, of a colicky, cramping nature, is often complained of. Diarrhœa is the rule, but some cases are constipated. Again diarrhœa and constipation sometimes alternate. An inflammatory condition is present

throughout the alimentary tract, and this condition extends to the liver and pancreas. Digestive disturbances are among the very first manifestations of the disease. These patients early show signs of poor nutrition. The disease may develop, as I have seen it do, in well-nourished and otherwise healthy individuals, but if so they do not remain in such condition long. They soon begin to lose flesh and strength, unless treated promptly. Imperfect assimilation and nutrition is a prominent feature throughout the whole course of the disease. In some cases there is a total absence of gastric juice. Dr. J. C. Johnson, of Atlanta, who has made considerable scientific study of the gastro-intestinal conditions present in pellagra, has shown us that in the vast majority of cases hydrochloric acid is absent from the gastric secretions. Dr. Johnson further states that in his experience "no case with free acid had diarrhœa, and no case had died or become insane in the presence of hydrochloric acid in the gastric juice."

(2) The skin eruption is seen upon the hands, wrists, forearms, neck, and sometimes the feet and face. It is generally taught that the eruption appears upon the feet only in persons who go barefooted, but I have seen it break out on the feet in a patient who had been bed-ridden for several months, with the feet covered with the bed clothes. This same patient had the eruption in pronounced form upon the scalp, and most of her hair came out. In a case that may now be seen near Hoschton the eruption is present over the entire abdomen and in patches on the chest and legs; it is the same dirty, scaly eruption as is present on her hands. This patient has had ataxia for seven years, and will die within a few weeks. In another case here the eruption is present over the stomach, and on the arms, legs and back, and there is much exfoliation; in fact, the skin is rough and scaly over the entire body, but the lesion is much more pronounced on hands and forearms, and shoulders. It has been reported that in Roumania cases have been seen in gypsy children who go entirely naked, and who nevertheless have the eruption on hands and wrists only. These facts tend to discredit the theory that the eruption is caused by exposure to light and sunshine. It may be possible that some lesion of the spinal cord is the cause of the eruption, just as is the case with shingles. But no such relation has been established. The clinical history does not show any relation between the nervous symptoms and the eruption. One patient of mine became insane long after the eruption had entirely disappeared, and in other cases the nervous symptoms

have been pronounced before the appearance of the skin lesion. In not a few cases the skin eruption does not appear at all. These cases have been termed "*Pellagra sine pellagra*."

The skin lesion usually consists of an erythema-like eruption, but sometimes comes in the form of papules (bumps) or blisters, and often has a strong resemblance to ordinary sunburn. In some cases instead of an eruption, there is merely a brownish discoloration, and this is not infrequently seen on cheeks and forehead. The eruption may develop suddenly. One patient of mine, a young lady, who had the eruption on her hands only, took a walk one afternoon in the sun, having on a low-necked dress. Next morning she was blistered all around the neck. Despite the use of cold cream, zinc ointment, &c., this did not heal for three months—not until cool weather set in. Another patient attributed the eruption to washing the laundry in some new kind of washing powder. She had not noticed any eruption until the morning following the washing, when her hands and forearms broke out with an eczema-like eruption—red, weeping, swollen and painful. This could not be healed. She came to me a month later, and at this time she had a typical pellagrous eruption on hands and forearms—dry, scaly, dirty-looking—together with sore mouth, red tongue, salivation, diarrhoea, and great prostration. She died within a few months, becoming insane a few weeks before death. Purpuric spots have been observed in some cases. After the disease has existed for some time, the affected skin area becomes rough, scaly, the epidermis becomes thickened, and assumes a dark, dirty color. Excoriations, and painful fissures at the finger joints, are seen in bad cases.

(3) The nervous symptoms are varied. There is headache, ringing in the ears, dizziness, and sometimes marked vertigo. One patient, a fine old gentleman, was often saying, "I'm drunk, doctor, I'm drunk; I have not drunk anything, but I'm drunk." He often fell down, and had bruises on his head from these falls. This patient died. Pains in the joints and back are often complained of, and may be mistaken for rheumatism. These patients are always weak, and always weary. As one of them expressed it to me the other day, "I feel all the time like I needed rest." Insomnia is often a troublesome symptom.

As the case progresses the nervous system becomes more profoundly involved. The knee-jerk may become abolished; ataxia often develops, and paralysis of different parts of the body is sometimes observed. In young persons defective development is

usually a result of this disease, especially defective development of the sexual organs—results very like those seen in cases of hookworm. This is not to be wondered at when we remember that pellagra is essentially a nutritional disease.

(4) Sooner or later, if the progress of the disease is not checked by appropriate treatment, the mind generally becomes affected to a greater or less degree. The mind is easily tired, being unable to sustain continued mental effort. All the voluntary functions of the body are performed with difficulty, and only by a strong effort of the will-power. The pellagrin's mind acts slowly—a symptom of diagnostic value. Mental depression is the rule, and total loss of mind not uncommon. The mental symptoms, as well as all others, vary in different patients, and at different times. Doubtless the intensity of the disease, like that of many others, is measured by the resisting power of the individual affected. The pellagrin is generally sad, and sometimes has symptoms denominated hysterical. Melancholia, or mania, with suicidal tendency, often develops. So far nothing has been found in the excretions.

On post mortem examination, atrophy of various central organs has been observed, especially of the stomach, liver and spleen. Symmetric sclerosis of the posterior columns of the cord, and of the pyramidal tract, are found. Degenerative changes in the cells of the cortex of the brain, and in the cerebellum, are seen. The latter probably accounts for the ataxia seen in many cases. I have recently seen two cases in consultation in which there was marked ataxia. One of them later became raving crazy, and attempted to kill his wife. But preceding both the ataxia and the insanity, and also the eruption, this man had had for eight or ten years marked digestive disturbances, with hypochondriacal symptoms.

As stated above, all symptoms subside in the autumn, and as cold weather approaches not a vestige of the disease remains. The patient remains free from the disease until the following spring, when all the symptoms return with increased severity. In chronic cases this cycle takes place year after year—the disease all the while increasing in severity, until finally, ataxia, paralysis, vomiting and diarrhoea supervene and persist until death relieves the unfortunate victim.

Diagnosis.—Most writers state that the diagnosis of pellagra is easy. If I may judge by my experience this oft repeated statement is far from true. Of course, when you have the skin eruption (which is perhaps the most positive symptom), the characteristic sore mouth, the red, beefy tongue,

together with weakness and digestive troubles, any novice can make a diagnosis. Even the laity often recognize the disease under these circumstances. But many atypical cases are met with. The skin lesion may be absent. The red tongue, and sore mouth may not appear until late in the disease. Diarrhœa may not develop. Under these circumstances the diagnosis may be exceedingly difficult. The more familiar one becomes with pellagra, the more cases he discovers. And, paradoxical as it may seem, the more he learns about it, the oftener he meets cases that are diagnostic puzzles. The best informed men are the most cautious in pronouncing a doubtful case of disease this or that. The ignorant and dishonest quack diagnoses his cases quickly, and with great positiveness—and *is usually wrong*. A very able physician told me the other day that he had had a lady patient under treatment for digestive troubles for two or three years. Recently she developed pellagra. "Now," said he, "she has had it all the time and I did not know it." Probably many cases of so-called acute indigestion are the starting point of pellagra. If the eating of food made from spoiled corn is the cause of it, this surmise seems not unreasonable. I treated an old gentleman off and on for ten years for paralysis agitans. Last year he developed pellagra, and died. Question: did he have pellagra all this time? and was it the cause of the palsy? I am afraid that many cases of pellagra are being overlooked. In all suspected cases, without skin or mouth lesions, other symptoms, if present, should put the physician on his guard. Some of these are his fellows: a vasillating, unsteady step; a peculiar, confused stare; muddy sclerotics; flabby muscles; a sad, pale face; scant hair; and weakness that cannot otherwise be accounted for. And remember the pellagrin's mind works slowly. He gives slow, hesitating answers to questions asked him. He is inclined to be meditative. He is generally in a state of poor nutrition, and suffers invariably from digestive disturbances. Pellagrous patients often have symptoms that are termed hysterical. In my opinion many cases that we meet in general practice that appear to be purely hysterical are in reality incipient pellagra. Patients sometimes have symptoms that are termed nervous, hysterical, or hypochondriacal years before the characteristic symptoms of pellagra develop. Gastric troubles should always make the physician think of pellagra. The diagnosis cannot be made upon one symptom, or two symptoms, but upon a group of symptoms, and after other causes for their existence have been excluded. Mild cases,

in the beginning, often have few symptoms.

Prognosis.—That pellagra is a serious disease no one disputes, but I must protest against the opinion often expressed that the affection is incurable. Two factors largely determine the prognosis:

1st. The degree of severity of the attack, and

2nd. The extent to which the disease has advanced.

As a rule the prognosis may be said to be favorable during the first attack. On the other hand, after the patient has had as many as two or three attacks in as many different years, and impairment of nutrition has become marked, and especially if the central nervous system has become considerably involved, the prognosis is absolutely bad. Hence the great importance of an early diagnosis, and a prompt institution of treatment. The outcome always depends to a considerable extent upon the patient's ability to place himself under the most favorable circumstances for recovery. Some cases early develop a typhoid condition and rapidly run their course to a fatal issue. The following are unfavorable symptoms: Extensive moist dermatitis; fever; progressive emaciation; persistent nausea and diarrhœa; mental involvement; ataxia; paralysis; and a continuation of the symptoms after cold weather sets in.

Prophylaxis.—If some one had told us a few years ago that our State would soon be visited by a new disease more to be dreaded than consumption, we would have been incredulous. Yet the prophecy would have been true. Let us look at the situation calmly and examine it carefully. It seems to me that pellagra is the most serious calamity that has come to Georgia since the advent of Sherman's army in 1864. Should it continue to increase for the next three years at the same ratio it has for the last three, it can mean but one thing to our section—ruin! Should it continue to increase for the next five years at the same rate, people from other sections will be afraid to come here to live, or to even sojourn here during our delightful winters. Many of our best people will leave our State. There will be a great exodus of our people to other States and other countries. Our farms will not be tilled; many of our factories will close; industry will languish; commerce will be paralyzed; property will depreciate in value; our cities will no longer thrive and grow and increase in population; our towns and villages will be full of vacant houses, and the streets grow up in grass; our fertile uplands will grow up in old field pines, and our rich bottoms will become the hiding place of wild beasts; and this beautiful and beloved Southland of ours, instead

of being "The land of the free and the home of the brave," will become the land of the pellagrins and the home of the whooting owl. Mind you, gentleman, I do not believe that such dire calamity is in store for us. But if this disease *continues to spread, then what?* Doctors that had three cases three years ago now have twelve or fifteen cases. In three more years they will have forty or fifty cases each. A distinguished member of our State Board of Health is credited with the statement that there are now 50,000 cases in the State of Georgia. Is it not time something were being done to stop it? Gentlemen, don't you think it would be wise to tell the people to *quit eating corn bread?* What do you think about it? In my heart I sincerely hope that this corn theory of the cause of the disease will prove to be true. If it does, then the remedy for the prevention of pellagra is simple and obvious—simply let all the people quit eating all food products made from Indian corn.

Oh, tell the farmers of the South to continue to raise corn, and in increased amounts if they will, but to feed it to the live stock. At present the South does not raise enough corn for the hogs and horses, anyway. It would cause no industrial nor financial disturbance for the people of the South to quit using corn for human food. But suppose the corn theory is not true, then what? We will be totally at sea so far as our present knowledge extends concerning any preventive measures whatever. Many have already quit using Western corn, believing it to be more or less damaged from the method used in curing it, and caring for it. Western corn will not keep in this climate in the spring after the weather gets warm, unless it is kiln dried. But practically all our mills grind some of this damaged corn. Therefore, there is bound to be some contamination of our home-raised corn at the mills. You know how hard it is to get rid of germs in surgical work, therefore you can understand that it is impossible to ever clean a mill once it is contaminated with infected corn.

Says a recent writer: "Rousell nearly exterminated the disease in France. When pellagra was called to his attention in any district, he went there, and, like Peter the Hermit arousing Europe to the recovery of the Holy Sepulcher, preached 'no corn' 'no corn,' and pellagra disappeared from those districts."

Again, the experiments of Tizzoni make us think that possibly sound corn may be a source of danger. Tizzoni attempted to produce the disease in rabbits and guinea pigs by feeding them the specific organism which he obtained from the blood and

cerebro-spinal fluid of pellagrins, and which he was able to grow on bouillon. Guinea pigs, which were fed the ordinary food, with the exception of corn, were able to take enormous doses of the germs by the mouth without any ill results. On the other hand, when the germs were given with corn meal, although this meal was carefully selected as to its purity, and free from contamination, the animal readily succumbed to typical pellagra.

So the question arises, does this germ simply require a medium containing corn meal for its growth and development? A vast number of experiments, all more or less inconclusive, have been made. But under all the evidence thus far accumulated, it seems to me the wisest thing to do would be to leave off all food products made from corn until this question is definitely settled.

Treatment.—Any form of treatment for pellagra, to be successful, must be begun early. I speak only from experience. One of the most urgent duties confronting the medical profession of this section is to learn how to recognize pellagra earlier than we have been doing. To wait until the eruption has broke out, until the tongue becomes red and beefy, and until diarrhœa sets in, is to wait until a profound toxæmia is established, and until it is often too late to accomplish a cure. It is probably true that many persons have pellagra, and get well of it, and never know they had it, the system resisting it, and throwing it off, just as it often does in cases of tuberculosis and other diseases. But I want to emphasize the point that in no disease is an early diagnosis and prompt institution of treatment of greater importance than in pellagra, for if the disease is allowed to run its course unchecked until a profound toxæmia is established, and lesions of the central nervous system developed, the patient is apt to die despite our utmost efforts.

Cleanliness and fresh air are important therapeutic measures in the management of cases of pellagra. A large per cent. of cases are met with amid bad hygienic surroundings. The patient should have a large, clean, well ventilated room in which to live, and a comfortable bed upon which to sleep. It is important that he should be kept free from physical or mental worry, or fatigue. He should avoid the hot sunshine, and should take a cool bath once a day. If a tub is not accessible a sponge bath in cool water on arising each morning will answer the purpose admirably, is within reach of all patients, no matter how poor, and should be insisted upon. The diet selected should be suited to the particular case being treated, depending upon the patient's digestive ability and peculiarities. The food should

be light, and easy of digestion. Soft eggs, raw eggs, milk, meat broths, and well cooked rice are suitable forms of food. Stronger patients may take a more liberal diet. In many cases well cooked vegetables, meats and fish are permissible. Nearly everybody eats too fast. Caution your pellagrous patient that his stomach is tender, and his digestion weak, and for him to allow nothing of food to pass to his stomach until it is thoroughly masticated. The patient must chew well the proper forms of food, and eschew all improper forms. If these patients cannot be persuaded to keep clean, eat the prescribed diet, and live healthful lives, it is a waste of time to treat them. Patient must not drink any form of alcoholic beverages. He must not loose sleep, and he would do better without tobacco in any form.

The digestive tract often needs soothing medicines. For the cramping, colicky pains Johnson recommends raw eggs and olive oil combined. Remedies like liquid alboline, and bismuth are useful. I often use a prescription like the following with advantage:

R Bismuth sub. nit.	drams vj.
Acacia	drams ij.
Tinct. nux vom.	drams iv.
Glycerine	ounces j.
Ess. pepsin q. s. ad.	ounces viij.

M. S.: Two teaspoonfuls t. i. d. before meals. Shake.

For the diarrhœa, when present, remedies like bismuth, zinc oxide, and tannegin, are generally sufficient. These failing, an opiate may be added. For constipation I invariably use *one* and the same remedy—old fashioned lac sulphur. I employ this in preference to other remedies because I believe that the sulphur, in addition to relieving the constipation, exerts in some way some curative effect upon the disease. Sulphur is dissolved in the small intestines, and is absorbed into the blood. Silver coins carried in the pockets of persons taking sulphur are discolored by the formation of the sulphide of silver, showing that the sulphur enters the system, and is eliminated to a considerable extent by the skin. In every case of pellagra that I treat, except in some cases where there is an excess of hydrochloric acid in the gastric juice, and whether I am giving sulphur for the constipation or not, I invariably give calcium sulphide, one-half grain, three to five times a day. I consider this one of the most promising remedies we have for the cure of this dread disease. Johnson recommends, in addition to this, a prescription containing chlorate of potash, and tinct. mur. iron in essence of pepsin, and reports excellent results.

Do not allow insomnia to persist. Tell

the patient that after he has tossed in bed one hour and cannot go to sleep, to take the prescribed remedy. This remedy is selected according to circumstances. In the presence of diarrhœa, morphine may do well. In other cases we may use other hypnotics, such as veronal, chlorotone, trional, &c. The bromide of strontium often has an excellent effect upon nervous pellagrius. It agrees with the stomach better than does other bromides, and is by all odds the bromide of choice in these cases. In some cases several doses a day may be given with advantage. Other drugs are advocated for the cure of pellagra. Of these preparations of arsenic (atoxyl, Fowler's sol.) and quinine seem worthy of trial. Formin (hexamethylenamine) has lately been lauded as a cure. I have not tried it, but think I shall. I cured one case, a man aged 40, farmer, who had a pronounced case of pellagra of two years standing, i. e., he had had it the previous summer, and who, at the time treatment was begun, was having chills and fever (malarial), with the following prescription:

R Mur. tinct. iron	drams xij.
Quinine sulph.	drams v.
Fowler's sol. ars.	drams iij.
Aquæ q. s. ad.	ounces viij.

M. S.: Teaspoonful t. i. d. after meals.

This was given primarily for the chills and fever, but he got well of his pellagra while he was taking it. I gave him, however, in addition to above, pills of calcium sulphide, one half grain each, three times a day before meals. I should add that his malaria was soon cured, but I noticed that his pellagra was improving rapidly, and so I kept up the same prescription. He recovered completely. I reduced the amount of quinine to three grains at a dose, and kept up the prescription for some time after he appeared to be entirely well,—for about four months in all.

For local application to the eruption nothing is usually given. In a bad case a lotion of glycerine and rose water, to which a little carbolic or salicylic acid may be added, is given. Or, a greaseless cream, such as the manufacturing pharmacists make for toilet purposes, may be used with benefit. Greasy preparations, like zinc oxide ointment, do not act well, according to my experience. Iodine petrogin will sometimes cause the skin lesion to disappear like magic after one or two applications. In cases of severe excoriation, with painful fissures about the joints, lead and opium solution, applied on rags, acts better than anything else that I have tried.

Other symptoms are to be met by appropriate remedies as they arise. No rule can be given. Digestive disturbances in pel-

lagra seldom or never require alkalies, such as we are accustomed to give in cases of acid indigestion, for Johnson has shown us that nearly all of these patients are deficient in HCl.

In conclusion, I want to express the belief that most cases of pellagra can be cured if taken in time. The key to the situation is an early, *early*, EARLY diagnosis.

After patients are cured they should be cautioned against excesses and errors in diet and drinks, lest the disease return. They should always avoid worry, and excessive fatigue, loss of sleep and other depressing influences. Failure to heed these precautions is likely to bring upon them a fearful penalty.

Stab Wound of the Heart; Drainage of Pericarium, Recovery.

By H. S. Lott, M. D., Winston-Salem, N. C.

Cases come to us bringing with them a mixture of emotions, and; after all, it is not the premeditated, but the accidental surgery that oftentimes presents the most interesting features. cases in which we must feel our way, step by step, with the hope that our efforts will not lessen the chances for a successful and living issue.

This young man walked into a drug store one Saturday night. He was supported by a friend, and as he passed me I noted that he was bleeding freely, seemingly from a wound in the chest. Following him to the rear of the store; I found that he had been stabbed through the clothing in the left chest, and he fell to the floor, with no radial pulse, before an ambulance could be called. Hurrying him to the hospital a hypodermic of morphia and strychnia was ordered, and he was placed upon the table for careful examination. Very slowly there was a return of the radial pulse, but it was very small, and the heart seemed to labor with much effect.

On exposure, the wound was found to be about midway of a line drawn just a little upward from the left nipple to the sternum. With very little delay, save for cleansing and ether anaesthesia, a free incision was made exposing the fourth costal cartilage, which had been cut through transversely, the weapon having entered the structures beyond, and in such direction as to indicate some injury to the heart. Upon the removal of this cartilage, in two sections, and the introduction of the fingers into the wound, blood clots were found, and also a ragged puncture through pleura, lung structure, pericardium, and into the heart muscle, for a depth quite sufficient to be easily perceptible to the touch, although

not penetrating into its cavity, and situated at a point in the upper third of the ventricle, quite near to the line of division between this and the auricular cavity. Upon clearing out the blood clots, the sensation was rather a novel one, of holding the apex of the heart in the palm of the hand, and realizing its rhythmic pulsations.

The wound in the muscular wall of the heart was not of such depth as to justify closure with stitches; nor did I feel inclined to close the pericardium and other supervening structures, thus making a sealed wound. But considering the infected weapon, the deep puncture and the unavoidable trauma from blood clots and manipulation, I determined to drain both pericardial and pleural cavities, and make a wide open game of it all. In order to accomplish this, two pieces of rubber tubing were used, each one of them split open on one side for its entire length, and its lumen filled with a soft gauze wick. One of these tubes, the longer one, was passed through the rent in the pericardium and well down to the limit of the apex of the heart; and the other one, not quite so long, through the rent in the pleura and lung tissue and well down into the pleural cavity posteriorly. These were fixed in the usual manner with safety pins, and an ample gauze and cotton dressing made secure with a many-tail bandage.

Hypodermics of morphia were given to relieve pain and secure quiet, and during this first forty-eight hours the clinical picture was a most interesting one. The heart had not had such a neighbor before, and its conduct was very erratic, the pulse going all gaits ranging from one hundred to one hundred and forty, and was of a very irritable and resentful character. After forty-eight hours the tubes were drawn up for about an inch and cut off, and this was continued each day until they were out of the cavities. Drainage during this time was very free indeed, so free in fact that it would have been alarming had I not believed that no important vessels were cut; and the dressings were not disturbed. This drainage lessened each day, and by the time that the tube was withdrawn, from that source there was no further trouble.

Not so, however, with the drainage from the pleural cavity. After about a week, and also after the long tube was out, a quantity of straw colored serum, as from a pleuritis with effusion, made its appearance, and I deemed it best to put in a short tube and favor free exit of the fluid. This lessened each day, and disappeared, but was followed by an offensive and copious dark drainage, as of necrotic tissue; and I feel sure

that there was gangrene of some portion of the lung. During the time of this discharge the temperature was practically normal, although the patient had some pain, and I kept the wound well open and favored free outlet, both by tubes and by posture. It was discouraging, as I feared that pressure of my first long tube might have caused it; and yet I would not have felt safe without its introduction. However, in the meantime, the general condition of the patient was good. The temperature was normal, or practically so, and while the man was very irritable, he was taking food and sleeping fairly well.

The heart's action became more regular, but its rate was accelerated, ranging throughout this time, from one hundred to one hundred and twelve; and finally, when he left the hospital about five weeks from the time of his entrance, the range of the pulse was from the eighty to ninety in the twenty-four hours.

The cavity and wound of entrance closed down clean and complete, with never an evidence of infection, and when the young man presented himself at a meeting of the Forsyth County Medical Society some months later, he had gained much in flesh, and declared himself feeling perfectly well. On exposure of the chest, the site of the wound was very evident, and at some distance the apex beat could be distinctly seen through its thin muscular and cutaneous wall of protection,

Now in this case, if I served my patient at all, I firmly believe that it was accomplished by drainage; not that it was skillfully used, or always wisely placed, maybe, but that it was persisted in until the cavity was clean and closed.

308 Masonic Temple.

Some Unusual Features in Trephining Operations.

By R. M. Harbin, M. D., Rome, Ga.

In the first place I will point out some features of two cases of head injury with symptoms of concussion, having a short period of unconsciousness, vomiting, signs of shock, etc. But there were no external evidences of depression of the tables of the skull.

One boy, aged 12, was run down by an automobile, while the other boy, aged 15 years, was kicked by a mule. It might be mentioned by the way that the diagnosis of depressed bone is often impossible without operation. A hematoma would produce the appearance of a depressed bone, while oedema of the scalp would conceal a real depression. In cases of doubt it is better to operate because an oversight of a bone

injury often leads to irreparable damage. There can be no harm whatever from a simple incision and if the symptoms be grave it is wise to go on through the skull.

In this case there was a simple linear fracture without depression. I prefer the use of chisel and mallet to the trephine as the work can be much more rapidly performed and after chipping out a small segment of the internal table the opening can be rapidly enlarged with a rongier forceps. In these two cases the dura mater bulged into the opening and was punctured, letting out the cerebro-spinal fluid under considerable pressure. This is the point to be emphasized in these two cases and is a condition in many cases that can only be revealed by trephining, while the pathological condition may be more deeply situated and is evidenced by an increased effusion of cerebro-spinal fluid. This release of increased pressure enables the brain to recover from molecular contusions. Concussion of the brain is to be regarded as a molecular lesion which may lead to hemorrhagic extravasations and ultimately permanent injury to the brain structure. Under increased pressure of the cerebro-spinal fluid in the airtight vault of the skull the reparative processes can not progress, and puncture of the dura-mater expedites these processes of repair. No one can ever predict when serious secondary symptoms will supervene, as the extent of injury cannot be estimated, although the means and manner of the blow may be a means to some extent of estimating the extent of injury. So concussion unquestionably means more or less microscopical contusion of brain tissue and when the medulla is affected either directly from the blow or, as more often happens, from increased pressure from effusion, serious cardio-vascular and vaso-motor symptoms may follow. As the skull is more or less elastic the lesions may be *coute-coup*. This increased internal pressure may be a cause of subsequent degenerative changes. It is needless to say that these cases pursued a rapid convalescence.

It should be emphasized that we must regard head injuries more critically, and in every case of concussion where unconsciousness lasts longer than half an hour, with vomiting and signs of shocks, etc., trephining the skull and puncturing the dura-mater should be resorted to. While the procedure at times may be unnecessary, the operation if done aseptically would be devoid of danger.

Then, too, the operation is necessary to detect any fracture and depression that otherwise cannot be diagnosed. I may remark that it is advisable to operate without the presence of any fracture in the face of

the usual symptoms of concussion.

The next case was a man 25 years old who was struck on the right parietal region with a billiard cue without breaking the skin. There was a short period of unconsciousness, vomiting, etc. He recovered primarily from these symptoms, but on the third day the opposite arm was completely paralyzed, with impairment of motion of the corresponding leg. After shaving the scalp the motor tract for the arm was located by the usual rules of topography of the brain. After incision a simple linear fracture was revealed, and when the skull was opened by trephining an extra-dural clot was found, having been formed by a rupture of an extra-dural blood vessel. This was cleaned out and the dura punctured. The paralyzed arm regained motion before the end of 24 hours. Owing to his miserable surroundings the wound became infected and he died from hernia of the brain 31 days after operation.

Since then I have had another case of hernia cerebri which developed after removal of a depressed fractured skull of three weeks standing in the right frontal region, which had caused an abscess which could gain no exit, the external wound being healed. The cause of hernia cerebri is undoubtedly infection and the treatment is useless, as I had opportunity to make use of all of the available suggestions, cautery, excision, pressure, etc. The unusual feature of this case was the focal symptoms were so clearly marked.

The next case was one of hemiplegia supervening suddenly in a very acute attack of grip and was seemingly cured by puncturing the dura-mater. The patient, a married woman 30 years old, had had for a week a severe grip infection with the usual symptoms, but two days before I saw her she suffered with marked coryza and intense frontal headache which merged into a coma with a temperature of 104, pulse 130 and complete right sided paralysis. The patient seeming to be in a hopeless condition it was decided to trephine over the motor tracts of the arm and leg of the corresponding side. Nothing was found except an unusual amount of bulging of the dura-mater which was punctured. It was then decided to insert a coarse aspirating needle downward and inward in the direction of the motor fibres for a distance of about $3\frac{1}{2}$ inches, withdrawing the piston of the syringe occasionally and about a half ounce of cloudy serum was withdrawn. A small drain was placed in the angle of the wound, and this serous drainage continued for 48 hours notably wetting the dressings. At the end of 24 hours slight movement in the affected arm and leg could be detected.

Her convalescence was steady and progressive and the time now elapsed being five years her health since then has been even better than before. This case again emphasizes the importance of releasing the intra-cerebral pressure under certain conditions by puncturing the dura-mater that the reparative process of nature can be facilitated. The next case illustrates the value of prompt action in cases of extensive skull and brain injury.

A boy 19 years old was struck on the right parietal region with a stretcher used in building wire fences. There was deep coma, vomiting, extensive hemorrhage from nose and ears, pulse 35, and respirations intermittent and very slow. In an hour's time he was on the operating table and after two extensive incisions it was discovered that the entire vault of the skull was fractured with extensive depression. After enlarging the openings in each side of the skull the cranial vault was elevated and there were four lines of fracture, one extending through the mastoid portion to the base of the skull and on the left side an extensive hematoma was seen pulsating and bulging the dura-mater from a ruptured middle meningeal artery. A catgut ligature was carried with a needle through the dura-mater so as to include the artery and the hematoma was incised and cleaned out. There was still extensive passive hemorrhage from trauma to the brain tissue. After readjusting the fractured tables and providing free drainage a snug bandage was applied. It was noticed that when the head was rotated to the left side breathing would cease. The operation was done without anesthesia, oozing was very profuse and hemorrhage from ears persisted for a week. Convalescence was slow but uninterrupted and his mental faculties now (six months since) seem entirely normal.

The lesson to be learned in such cases is to relieve the pressure symptoms before fatal compression ensues and this case would probably have died had the operation been delayed another hour, for fatal compression is more to be feared than trauma *per se*.

My Experience with Salvarsan, Both by the Intravenous and Intragluteal Methods.*

By M. C. Sytle, M. D., Richmond, Va.

Case 1.—Mr. M. C., age forty, referred to me by Dr. M. D. Hoge, with ulcerous syphilides, rupia on the face, a destructive gummy ulceration in the posterior walls of the pharynx, great swelling of the ankle

*Read before the Richmond Academy of Medicine October 10, 1911.

joint, severe periostitis, unable to sleep at night, deep ulcer on the left leg, loss of appetite, and gradually diminution of weight. This patient was injected on November 20, 1910. Before the injection a Wassermann test was made by Dr. Womack, of New York, and found positive. Three hours after the injection the previous pains had left, although the patient was most uncomfortable, having a rapid pulse, temperature of 103, respiration greatly depressed, yet at the end of the second week there was marked improvement. The scars about his face had greatly diminished in size, the ankle joint had become normal, the despondent expression had entirely disappeared, and the deep ulcer on the leg had become clean and granulating. In December, a second Wassermann was made and found negative. This was the first case that I had injected, and was reported by me to the Richmond Academy of Medicine, December 13, 1910, as a complete cure. A third Wassermann was made by Dr. W. A. Sheppard, at the Memorial Hospital in January, 1911, with a strong positive, but all symptoms were greatly improving. He had increased up to this time fourteen pounds in weight. In this case the result showed improvement of symptoms, but did not destroy the spirochaetes, even after a second injection by the intravenous method one month later.

Case 2.—Referred to me by Dr. Long, of Thelma, N. C.; showed an ulcerated larynx, and almost a complete loss of voice. A Wassermann was made by Dr. Sheppard, and found positive. This case was injected by the intragluteal method, followed a month later by the intravenous route. A second test was made, showing a negative, with complete return of voice, and a healthy condition of the larynx.

Case 3.—Referred by Dr. Wilcox, of Clearwater, Fla. This patient showed a gummatous ulceration with crusted syphilides of the entire face and lower extremities. For three years he did not respond to mercurial and iodide preparations, but his condition responded very quickly to 0.5 gramme of salvarsan injected by the intragluteal route.

Case 4.—This patient was first under the care of Dr. Vinson, of Huntington, W. Va., and in this case Dr. Vinson was able to demonstrate the spirochaete. He accordingly put the patient on iodides and mercury. A Wassermann was made by Dr. Sheppard and found negative. This treatment was discontinued by the patient for one month and a second test was made showing a strong positive, with all alarming symptoms; especially was there great alopecia. This patient was then

injected by the intragluteal route and three weeks after showed a negative, with a disappearance of all symptoms.

Case 5.—Mr. "S." who had been under specific treatment for one year. At this time a Wassermann was made by Dr. Sheppard and found positive. On June 8th he entered the Memorial Hospital and was injected by the intragluteal route. This patient remained at the hospital one week, and in this time showed no ill effects, with the exception of slight pain in the gluteal regions over the seat of injections. A Wassermann was made before leaving the hospital and found negative. About twelve days afterwards I was called to see this patient about 2 a. m., and found him suffering with intense pain, radiating from the seat of injections to both ankle joints. There was also intense burning, swelling, discoloration, severe dizziness, pain in the eyes, nausea, diarrhoea, and the temperature running to the 104 mark. My first impression was that he was suffering from a gluteal abscess and arsenic poisoning. I remained with the patient a short while and ordered hot applications applied over the seat of injections, at the same time getting ready to open up and drain, but with this I hesitated, and within six hours all of these alarming symptoms had entirely disappeared. The patient was again comfortable with a normal temperature. Dr. Baughman was called in with me the following morning and we both agreed that it must have been a delayed reaction in the absorption of the salvarsan.

Case 6.—Miss "L." age 20, showing a positive Wassermann, with a specific condition of the epiglottis, and for a long time she had great difficulty in swallowing. Within seven days after the injection by the intragluteal route there still remained a positive Wassermann, but the epiglottis had greatly improved from its previous condition, and there was less difficulty in swallowing. A second injection was given by the intravenous method, and within four weeks showed a negative test.

Case 7.—Miss "E." age 26, on March 3, 1911, came to my office suffering from fainting spells, which she thought were due to the suppression of the menstrual period. On examination I found a gummatous ulceration of the left tonsil, a slight twisting of the mouth, reflexes entirely gone, and with the presence of many copper colored spots on her chest. A Wassermann test was found positive. March 15, 1911, I injected her by the intravenous route and within a few days there was great improvement with a negative Wassermann.

Case 8.—Mr. "R." age 33, base ball player. When first seen was complaining

greatly of pain in both arms, and a severe neuralgia. There was also intense swelling of the joints, alopecia, papular syphilides, and some papulo squamous syphilides which had not responded for sixteen months to treatment under mercury and iodides, while one injection of 0.5 gramme of salvarsan by the intragluteal route showed beautiful results.

Case 9.—Mr. "W. N.," age 28, referred by Dr. J. P. Roy, with similar lesions as case 8, without any change for seventeen months in spite of large doses of iodides and mercury, responded quickly to salvarsan injected by the intravenous route, and showed a negative Wassermann.

Case 10.—Mr. "S.," age 40, referred by Dr. C. W. P. Brock, showed only copper colored spots on his chest and face, but complained of losing greatly in weight, and often with intense headache. This patient had no knowledge of being infected with syphilis until a positive Wassermann was found by Dr. Hopkins, and within three weeks afterwards another test was made by Dr. Shepard and showed a positive. He was injected by the intragluteal route, and, after the spots had entirely left, he increased twelve pounds in weight, with a negative test in approximately six weeks.

Mosquito Pest.

By Robert C. Campbell, M. D., Shreveport, La.

I will depart from the usual custom of using technical terms but confine myself to the common names of insects, etc., as it is necessary to educate the general public if we hope to be successful in our work and get them to read and think. The seed thus sown will soon germinate and we will have many supporting us who previously opposed and hooted at necessary measures we were trying to enforce.

I have had a little practical experience in that line of work. During the last epidemic of yellow fever in Louisiana I was requested by the Mayor and President of the Board of Health to take charge of the small sanitary force and have the city of about 30,000 inhabitants put in a good sanitary condition. They had already expended about \$15,000 with little effect. At first I met with considerable opposition to practical measures. Gentlemen would say to me that they did not believe in the mosquito doctrine. My reply was, I do not ask you to believe in the mosquito or any other doctrine or theory but you must admit the mosquito is a very molesting insect and that it is far more pleasant to dispense with its annoying bite. A clean house and surroundings is much more healthy than a filthy condition of premises. They admitted

I was correct and rendered noble assistance in my efforts to place the city in a sanitary condition, consequently we escaped yellow fever.

I was in the Ozark Mountains last summer. Malarial mosquitoes were very numerous there. The inhabitants had no idea of the poisonous character of the insects nor where they came from. A ministers wife thought tadpoles developed into mosquitoes. Some thought they were born full-winged; others that they bred in the air, etc. The problem was easily solved—at first a few mosquitoes came in railway cars and coaches—they had no trouble in finding favorite breeding places, for every inhabitant of the town had tubs and unused vessels containing water on his premises where they bred by the millions unmolested. I could see millions of the larvae in the vessels in all stages of development. Still the natives could not imagine why the molesting insect became so numerous. I do not much wonder at their belief in the early biting capacity of the mosquito, for everything up there from the razorback down to the smallest insect is very pugnacious.

The mosquito problem is a very serious one on account of its adaptability to almost any kind of temperature and altitude and it always finds suitable water to breed in. There are now many towns and cities alive with this pernicious insect that had none before the railroads were built through the country. They have gone long distances from their birth-places to high altitudes in railway coaches and cars. When trains stop at stations a few mosquitoes will enter or leave the cars through the doors and windows. After entering the coaches they may be carried several hundred miles before escaping. I have caught the anopheles and stigomyia (malarial and yellow fever mosquitoes) in Pullman and day coaches from 100 to 300 miles from their birth-places and at an altitude of from 3000 to 5000 feet above sea level. When they leave the cars they very soon adapt themselves to altitude and climate and always find congenial breeding places on account of the carelessness and ignorance of people leaving vessels containing water about their premises, consequently in a very short time they multiply by the millions. It is very rare to find the Culex mosquito away from the swamps. They do not readily adapt themselves to changed conditions, but the anopheles (malarial mosquito) adapts itself to almost any change of climate or altitude. It will breed in cisterns, tanks, barrels, ponds, pools, ditches, tin cans, roof drains, or in any vessel or place that contains a few spoonfuls of water.

In the extermination of the mosquito it is imperative that we should be familiar with certain habits of this insect, otherwise our efforts are not apt to be attended with much success. While undisputable evidence has been presented to show that mosquitoes go far from home it is the opinion of all who have carefully studied this insect that they do not willingly go far away and I know that if a section of country is infected with mosquitoes a breeding place exists in the immediate vicinity. You must remember that the female mosquito will lay from 300 to 400 eggs at one time and that it only requires from 12 to 25 days for the eggs to develop into full grown winged insects.

It will then be understood how a small receptacle will breed a large number of mosquitoes. Therefore before hunting for their breeding places at some distance from home we should examine our own premises to ascertain if receptacles for the propagation of this insect cannot be found.

Beware of rodents, fleas, flies, bed-bugs, roaches, spiders and ticks—all are conveyors of diseases to the human being. The maxim is to avoid the bite or sting of all insects and reptiles.

Rats are known to be responsible for the spread of Bubonic Plague besides many other crimes. Tuberculosis, typhoid fever and other infectious diseases can be charged to the many crimes of the house-fly. Fleas are such restless jumpers it has been hard to saddle any one specific disease on them. At last they have been found to be the intermediate conveyers of the Plague Bacillus from the rat to the human being. The penalty should be extermination. The odious bed-bug is accused of many crimes such as being the influential agent in the spread of Bubonic Plague, leprosy, cancer, tuberculosis, and small-pox.

The filthy looks and habits of the roach are sufficient evidence to convict it of conveying any loathsome disease to man. Spiders are all more or less poisonous, but the small black spider is a pugnacious and dangerous insect. I have seen several severe cases of erysipelas, some with abscesses, caused by the bite of this insect. There is also a small gray spider not quite as vicious or poisonous as the black. The favorite haunts of these spiders are on verandas where there are vines, in closets, wardrobes and on clothing. I have seen this spider in the Gulf States only, but suppose it is to be found in any temperate climate. Cattle ticks frequently produce a type of remittent fever which is called in some rural districts billious fever. I saw three cases this spring of which there was not the shadow of a doubt as to the cause of fever.

Hygiene and sanitary science is of vast importance to the civilized world in preventing epidemics and spread of all contagious diseases. We will do well to try to educate all classes in preventive medicine as far as possible, by which means we may save the lives of thousands of children. The large number of ignorant immigrants, particularly Asiatic and Turks, coming to the United States every year require close watching, as they seem not to have the remotest idea of hygiene or the benefit derived from good sanitary environments. They should be taught to strictly comply with all sanitary regulations. Health officers should be thoroughly educated in hygiene and sanitary sciences and all inefficient officers, political appointees or others, should be replaced with competent men. Again when intelligent and prosperous persons through indifference or with the hope of gain violate the laws of hygiene and sanitation and if they cannot realize the grave crime of pollution and adulteration of food and drink they should be placed with the ignorant and depraved classes and rigidly dealt with.

Pure food, water and sanitary environment are the true foundation of health, happiness and prosperity.

CHARLESTON-KANAWHA, W. Va.,
Sept. 5, 1911.

Dr. Edward C. Register,
Editor Charlotte Medical Journal,
Charlotte, N. C.

Dear Doctor:—

There has been a great deal said and more written about the use of iodine as a skin antiseptic in the preoperative preparation of surgical patients. Most of these writers ascribe priority to Grossich. Since iodine as a skin antiseptic was used by myself and several of my friends in this country prior to the report of Grossich, I wish to submit the enclosed.

Very truly yours,

J. E. CANNADAY.

A Partial Review of the History of the Iodine Method of Skin Elimination.

By John Egerton Cannaday, M. D., Surgeon to Charleston General and McMillan Hospitals.

Shortly after the appearance of Seun's article on Iodine in Surgery, Gynecology and Obstetrics, I was impressed with the great advantage of iodine as a comparatively non-toxic antiseptic agent and began using an iodine solution in the preparation of the skin for operation. I also used it for the hands in such cases in which gloves were not worn. The results were eminently satisfactory in a large number of cases and I called attention to the use of iodine for

this purpose in an article published in the Journal of the American Medical Association April 14, 1906. This article was entitled, "Some of the Uses of Iodine in Surgical Practice." I quote from it as follows: "I have found the tincture of iodine to be a simple, readily obtainable and effective agent for the preparation of a small patch of skin preliminary to the insertion of the needle of the hypodermic or of the antitoxin syringe. For a year past I have been using a 0.5 of one per cent. iodine solution for purposes of hand disinfection in all cases in which rubber gloves were not worn. As a routine practice I wear gloves in operative work. In a certain class of cases gloves are undesirable. Again, a glove may be punctured or torn in a septic case, and the surgeon will feel the need of a reliable antiseptic, both for the protection of himself and his future patients. The use of this solution is simple and time-saving. The technic I practice is as follows: Thorough scrubbing with nail brush, green soap and running hot water. Cleanse the hands in a systematic manner. Take each part in a certain order every time, so as not to skip any part. Pay particular attention to the nail folds, subungual spaces and the skin between the fingers. Clean under short-clipped nails with a heavy metal nail file. Scrub again, wash off soap in running hot water, remove residue of soap by immersion in 70 per cent. alcohol. Immerse in iodine solution for five minutes, rinse in sterile water or let the solution dry on the hands. The light brown stain can be removed by washing in dilute ammonia water after the operation is over, or if left alone will soon disappear.

In the preparation of the site of incision I invariably observe the following routine: The evening prior to operation the area is covered by a green soap poultice, which is allowed to remain for several hours to loosen the dead and scaling epithelium; the part is shaved, going wide of any possible incision, then carefully cleansed by the use of a soft nail brush or gauze pad, liquid antiseptic soap and sterile water followed by alcohol. After this a compress wet with 1-5,000 bichlorid is applied, covered with oiled silk or other protective and secured by a bandage. This is undisturbed until the next day after the patient is under the anesthetic, when the compress is removed and the part is treated to a second cleansing with antiseptic soap, gauze pad and sterile water, followed by dilute alcohol; the solution of iodine is then applied and allowed to dry on the skin. Naturally in emergency cases much of the treatment preliminary to the use of the iodine solution will have to be omitted.

The solution of iodine used for the hand^s may be made up with dilute alcohol or prepared according to the following formula: Iodine 2.5 gm., potassium or sodium iodid 5.5 gm., water 250 c.c. This gives a 1-1000 solution, which can readily be diluted to the desired strength. In a long series of cases in which the iodine solution has been used as described, the results from a clinical point of view have been excellent, and it is easy to conclude that as a chemical agent for at least the partial sterilization of the skin iodine is the most satisfactory substance we possess.

It must not be forgotten that this, the most harmless of antiseptics, and its compound iodoform are active agents, and as such should be used carefully. Under certain conditions they are very toxic. The pyogenic membrane lining and abscess cavity seems to be practically immune. Patients suffering from septic infection will tolerate more than the usual amounts administered. The feeble and aged are often susceptible. Iodoform irritation on the exterior of the body usually takes the shape of a severe dermatitis, not any worse, however, in character than that occasionally produced by the use of a bichloride compress on a sensitive skin.

My conclusions are that iodine is the antiseptic par excellence for the skin of the hands and operation site. The solution of iodine is easily prepared and is stable. It does not coagulate albumin or form inert compounds with the tissues. It is of more value in many ways than either carbolic acid or bichlorid of mercury and not nearly so poisonous.

Later, I wrote a paper entitled "Aseptic Operative Technique," for the Hot Springs meeting of the Mississippi Valley Medical Association held November 8, 1906. This article was published in the Therapeutic Gazette, May 15, 1907. From it I quote the following: Prior to major operative procedure of any sort I prefer to give the patient a few days at least of preliminary treatment, including a carefully regulated diet, purgatives, and rest in bed. The intestinal tract is in a measure freed of excretory products, intestinal indigestion with its putrefactive and gas-forming concomitants is temporarily held in abeyance and the individual who may be accustomed to the most active habits becomes habituated to life abed. As the eliminative power of the skin when in a normal state of efficiency is great, considerable attention should be bestowed on that organ; skin friction, soap, and a hot tub or shower bath should be given daily for several days, a clean suit of underclothing being put on after each bath. Eczematous conditions of the skin as a rule

should be a bar to operative procedure in the affected region. I usually give the patient a quite light or liquid diet the day before operation, no food of any sort the day of the operation unless the patient's vitality is below par, when some form of liquid nourishment is administered to within two or three hours of the anesthetic time. All other factors being equal, the smallest amount of food and feces we have in the gastrointestinal tract at this time the better for the patient. As I usually begin operating about 2:30 p. m., the patient has by that time had ample opportunity to get results from the routine of fasting and the administration of purgatives.

The evening of the day before operation a soap poultice is applied to the operation site and vicinity; this remains for two or three hours, when the part is carefully shaved, then washed with liquid antiseptic soap and warm water, followed by alcohol to remove the residue of soap. During the cleansing process care is taken not to produce abrasions, a soft brush or preferably a gauze pad being used to scrub the skin. In this preliminary skin cleansing a careful aseptic technique should be maintained. A sterile gauze dressing is applied and retained in place by a bandage. As containers for the solutions used in cleansing the skin site, glass flasks of appropriate size having well-fitting rubber stoppers with bent glass tubing are used. This insures a small, steady stream that can be stopped or started at the right time and directed to the desired spot.

A purgative of some sort is given the evening of the preparation and a saline early the next morning. This is followed in two hours by a soap-suds enema if necessary, and later by saline enemas until they return clear. The bichlorid compress is not used for the reason that it macerates the epithelium and diminishes the regenerative powers of the skin. The dry dressing is as a rule undisturbed until after the anesthetic has been started, when the final cleansing of the skin is done. Precisely the same technique is observed as in the preliminary cleansing with the addition of a one per cent. solution of iodine, which follows the alcohol and is allowed to dry on the skin. The patient is covered by a sterile fenestrated sheet; the operation area is outlined by sterile towels and loosely covered until the operation is begun. It is an easy matter to over-do in our attempts at asepsis. Over-zealous scrubbing, too much energy expended in this direction, will defeat the end aimed at. Naturally in emergency cases the preliminary cleansing will have to be omitted. The solution of iodine may be made up with dilute alcohol

or in accordance with the appended formula: Iodine, 2.5 Gm.; potassium or sodium iodid, 5.5 Gm.; water, 250 c.c.

This gives a 1:100 solution, which can readily be diluted to any desired strength by the addition of water.

Granted that the attainment of absolute asepsis of the skin is about as impossible as squaring the circle, it yet behooves us to try to reduce the bacteria to the smallest possible number to each square inch of surface. In the preparation of the operation site one needs to have an intelligent appreciation of the possibilities of skin infection and the consequences of the same.

As the complete sterilization of the skin with our present crudeness and limitations of science is a futile impossibility, we have to make the best use of the opportunities at hand. The value of the iodine solution as a germicidal agent for streptococci and staphylococci has been bacteriologically proven beyond a doubt; clinically this method has been productive of the happiest sort of results, and it is easy to conclude that as a chemical agent for at least the partial sterilization of the skin iodine is the most satisfactory substance we at present possess.

For purposes of mere mechanical cleansing of many of the mucous membranes of the body prior to operation I have the parts copiously flushed with physiologic saline solution. Urinary antiseptics are used to improve the sanitary condition of the urinary tract. A dilute solution (1 to 1000) of iodine is used to irrigate the vagina and uterus. The cleansing of the vagina is a subject often neglected; a careless sort of douche is given, and the part is said to be clean. Every part of the vaginal wall should be carefully cleansed with liquid antiseptic soap, hot water and a thorough scrubbing with a gauze pad. Especial attention should be paid to the space just behind the cervix, where discharges are prone to accumulate and entirely escape the average douche. Alcohol causes too much burning for use on the mucous membrane even of the vagina. The soap should be removed by free use of warm water; thereafter the dilute iodine solution should follow.

In conclusion, I said that bichloride of mercury as ordinarily employed is useless and engenders a false sense of security.

That the bugaboos of prolonged scrubbing of hands and arms with rough brushes and the reckless use of strong bichloride solutions favor rather than diminish the chances of infection in the long run.

That the iodine solution is comparatively non-toxic and highly antiseptic. Laboratory experiments have conclusively proved that as a germicide a 1:500 solution of

iodine will do in five minutes what it takes a 1:1000 solution of bichloride half an hour to accomplish.

In November, 1906, I published a paper in *American Medicine*, entitled "Iodine and Some of its Uses in Surgical Work." I quote in part: Roux first made use of tincture of iodine in hand disinfection, using it for the finger-tips to penetrate the subungual spaces and the nail folds. Von Mikulicz used it in the same way and Senn used it for that purpose, introducing it around these crevices with a nail brush. For several months past I have used a one-half of one per cent. alcohol solution for purposes of hand disinfection preliminary to operative work in all cases in which rubber gloves were not worn. The same solution is made use of in the preparation of the site of the operation incision. I wear rubber gloves as a routine measure in operative work but in a certain number of these cases gloves are undesirable, again in an occasional septic case a glove may be punctured or torn and the operator feels the need of some reliable antiseptic for his own sake as well as for the protection of his future patients. The use of this solution simplifies technique and saves time. First, thorough scrubbing with nail brush, green soap, and running hot water, going over the hands in a systematic and methodic manner, taking each part in its turn, and always following the same order so as to skip no part. I pay particular attention to the nail folds, subungual spaces, and the skin between the fingers. Short clipped nails should be cleaned with a good heavy metal nail file, the hands scrubbed again, washing off the soap in running water. Remove the residue of the soap with 70 per cent. solution of alcohol, immerse in iodine solution for five minutes, rinse in sterile water. The light brown stain can be removed by washing in dilute ammonia water after operations, or if left alone it will soon disappear.

The results clinically of this method have been superb. In a long series of cases no infection attributable to the hands has occurred.

In conclusion, I would say that iodine constitutes a near approach to a perfect antiseptic in that it is non-toxic in effective strength, being one-fourth as poisonous as mercuric chlorid though many times more valuable as a germicide. It does not coagulate albumin or form inert compounds with the tissues. It possesses great penetrating power, is easily prepared and is stable.

A solution of iodine is the most practicable chemical agent we have for the sterilization of the skin.

In the fall of 1907 I visited Munich and at the clinic of Doderlein, who succeeded

Von Winkel, I saw that iodine was being used. I mentioned it in my letters to the *West Virginia Medical Journal*. These letters were published in installments, and this part was not published in the journal until June, 1908. I quote in part: In the preparation before the operation, full strength tincture of iodine on the skin a short time previous to incision. This is followed by a semi-liquid mixture containing rubber, carefully spread on the skin by means of a roller, after which a small electrically driven fan is held near to facilitate drying.

So far as I know I was the first to make use of iodine solution as a routine in the preparation of the operation site, having used it continuously since early in the year 1905. At first I followed soap, water and alcohol with bichloride. The skin was cleansed thoroughly the evening before operation, with soap, hot water, gauze and sponge, then again alcohol, then a dressing was applied. After the anesthetic was begun, the skin was gone over with pure grain alcohol, and followed by the iodine solution. I had charge of a large charity clinic at the Sheltering Arms Hospital and made use of iodine in all my cases.

Last year I began a fractional method by giving the skin several successive paintings when dry with iodine solution.

As chairman of a committee appointed for the purpose of securing uniformity in the operating room technique of the Charleston General Hospital, I compiled a series of rules for the operating nurses, and these were published in the *West Virginia Medical Journal*, January, 1911. So summarize part of these rules, I will say that physical cleanliness of the part proposed for surgical attack is secured by the plentiful use of razor, soap, gauze or cotton sponge, hot sterile water followed by alcohol. Afterwards the iodine solution is applied, as soon as the skin is dry. Early next morning the skin is repainted and after the anesthetic is begun there is a final painting of the skin with iodine solution. We have been using a 10 per cent. solution of the tincture in alcohol in elective cases. In emergency cases where only one application can be made, the full strength tincture is used. I have infrequently seen a fine vesicular eruption of the skin follow the use of iodine as a disinfectant.

Capital City Bank Building.

Treatment of Summer Diarrhoea.*

By Lewis W. Elias, M. D., Biltmore, N. C.

Few diseases can boast more different styles of treatment than summer diarrhoea.

*Read before the Buncombe County Medical Society, August 21st, 1911.

And yet, unfortunately, aside from variety of style there is often little else of which to boast. However, new light is constantly being thrown on the subject by industrious investigators, and many false views, once held dear, are being dropped. With this we find a steady trend towards simplicity, and a consequent growth towards uniformity. This paper will consider treatment with methods of accepted merit, also some of the modern views. Where there is no uniformity of opinion my own procedure will be given, with no claim to originality.

In prophylactic measures we find a general agreement: 1st. As to the great importance of breast feeding; 2nd, that cow's milk must be kept pure through every step from cow to baby; 3rd, that babies must be kept cool with light clothing and frequent bathing, and fed a smaller quantity of a more dilute food in hot weather; 4th, that all minor digestive disturbances should be corrected at once, since summer diarrhoea almost invariably follows mild cases of indigestion in the preceding months. Kerley says teach every mother that the loose green movement is a danger signal; with the first one give the baby castor oil, send for the doctor, stop all food, giving only boiled water. Only in this way can we check the severe forms of infection. The physician neglecting this instruction fails in his duty as a practitioner of medicine.

In the management of a case of summer diarrhoea the first steps are—as are those in prophylaxis—along a well beaten path.

When considering the treatment of summer diarrhoea we need draw no fine distinctions as to the type of disease present. The treatment differs mainly as to whether there is a rapid or slow response on the part of the patient, rather than according to the shade of difference in the lesions. At the beginning we have no certain way of telling just which form we are dealing with; and since the cases with only moderately active symptoms often run a severe course, it is well, at least in the beginning, to consider each case a severe one and so to treat it. Therefore we will consider the treatment in general in the light of the fundamental needs of all patients. Any variations should be made according to the reaction of the patient, as suggested above.

The first thing in the treatment is to thoroughly clear the intestinal tract. We do this with castor oil; hastening the clearing process with a high enema of warm normal salt solution. Should vomiting be present, which is not usually the case, we give calomel or sodium sulphate; all food is stopped and for the next 12 to 24 hours only boiled water is given. A baby may live for days without food if it is given a

sufficient amount of water. Therefore it is important to specify that the patient get the quantity of water in 24 hours which is equal to its usual volume of food for that period. If the baby cannot be made to take the water, it must be given with a tube; if this is rejected it must be given under the skin, small quantities at frequent intervals, but never repeating an injection until the preceding one has been absorbed.

In the meantime the patient is thinly dressed; and given plenty of fresh air, as cool as it can be made, and if possible air in motion is secured. For the fever and restlessness frequent cool sponges or baths are given. An ice cap or coil to the head is useful, if it can be kept in place. Hot applications and turpentine stupes will often relieve pain in the abdomen, especially if tympanites is present. Should vomiting be a troublesome symptom it is best treated with gastric lavage and entire rest of the stomach.

For 12 to 24 hours, the starvation period is kept up. By this time the alimentary canal is cleaned out, and, though we would like to starve the germs longer, we remember the patient is getting the same treatment. It is a point worth bearing in mind all along, that we are not treating the disease in a test tube, but in a baby, often already weakened by indigestion, or poor hygiene. Therefore, it now becomes necessary to begin some form of feeding. But here we come upon a great conflict of opinion. Up to this point there has been a pretty uniform agreement as to procedure; when, however, the subject of food is mentioned in summer diarrhoea we find that practically everything has been tried, and on good authority recommended, and on equally good authority condemned. Our list ranges from carrot soup to cream cheese; and, if we follow lesser lights, there are no limits to our choice.

It is impossible to consider all foods, or even all the methods of feeding; but it is well before going further to glance briefly at two views lately advanced. They are diametrically opposed to each other, and yet have so far progressed from empiricism as to stand on some real scientific basis.

The first is Finkelstein's method. Ignoring germs in the production of summer diarrhoea, he lays the real trouble to what as below he calls "food injuries." These are caused by fat and sugar, proteid is harmless. Fever and intoxication are caused entirely by the sugar. Acting on this view Finkelstein gives a food nearly free of sugar, and with only a moderate amount of fat, but a high percentage of proteid. His method is being widely tried. In Germany it has aroused much enthusiasm; but American physicians

have not been so successful in its use.

An even more recent view, and one involving a less radical method, is that advanced by Kendall of Boston. Accepting the usual view of germs as the exciting cause of summer diarrhoea, he bases his method on findings in reference to germ food. Bacteria, so far as we know, only manufacture toxins when feeding on proteids. They prefer carbohydrate foods, only taking proteid food when the carbohydrate is exhausted. In the presence of carbohydrates the bacteria that have to do with summer diarrhoea not only elaborate no poisons, but actually diminish in number. So Kendall gives his patients, at frequent intervals, a 5 per cent. solution of milk sugar; at times also giving subcutaneous injections of dextrose. In this way he feeds his patient; and at the same time reduces the number of germs, and stops the manufacture of toxins.

Here we see two sharply opposed views and practices. One practically denies the office of germs in summer diarrhoea and all but eliminates sugar from the food. The other accepts the germ theory, but tries to eliminate the germs with a food of sugar.

Bearing these two theories in mind—for most of the modern treatment of summer diarrhoea leans toward one or the other—let us take up the management of the case after the initial starvation.

We begin feeding—though in a limited way it must be confessed—with barley and rice water. If we alternate these the patient will not tire so soon as he would on either alone. In this respect the 5 per cent. solution of lactose is superior as the baby takes it readily. These carbohydrate solutions are given every two or three hours, in quantity equalling the food taken in health. The warm saline enemas are kept up once or twice in the 24 hours, if they do not cause undue struggling and prostration, in which case they should be discontinued.

The baths, fresh air, thin clothing, and attention to all nursing details that make for the comfort and rest of the patient are continued. It is worth mentioning that in the modern treatment of all infections rest is about as important as food. Summer diarrhoea is no exception to this rule. The food, drugs, baths and other manipulations should come at the same periods, in order that the small patient may have as much time between as possible for rest. A well baby disturbed every hour or oftener for baths, food, enemas, &c., would soon be upset. A baby already sick should have no fussing over him. The order should be: necessary procedures at regular intervals; between times watchful neglect and quiet.

To further secure rest use opium judi-

ciously. Many have discarded it, as they have all other drugs, and I am convinced that drugs occupy the minor position in treating this disease. Yet those who have felt the wearing power of pain can understand how impossible it is for a baby to secure the benefits of rest while having 10 to 20 colicky movements in the 24 hours, with the attending sickening, often nauseating straining, and the subsequent tenesmus. Small doses of paregoric, Mv-x, or Dovers powder, gr. $\frac{1}{4}$ to $\frac{1}{2}$, should be given to a child one year old, at frequent intervals, where the above symptoms are marked, and should be increased if needed. It is also useful to reduce the excessive peristalsis and rapid loss of fluid. However, diarrhoea is nature's way of eliminating irritating substances and toxins; so it is unwise to check the movements below four to five in the 24 hours. If opium is given carefully and stopped immediately when the need is passed, especially in the presence of high fever and stupor, then it is as much a blessing in summer diarrhoea as elsewhere. It should never be combined with other drugs, for then we are unable to stop it and continue the other medicine.

Other drugs which may have a place are stimulants such as tr. strophanthus, brandy and strychnine. The strophanthus is preferable to the brandy, being easier on the stomach. Strychnine is best given hypodermically. One more drug should be added to the list that is bismuth. In doses of gr. x or more every two hours there seems to be a distinct reduction in the number of stools, an improvement in their character and in the general condition of the patient. It must be remembered, however, that to achieve this the bismuth must be acted upon by the sulphur in the bowel, which is shown by the movements turning black, otherwise a grain of sulphur must be given with each dose of bismuth to secure the required effect. The bismuth is kept up—diminishing as the stools improve—until milk feeding is well established.

In the foregoing way we employ bismuth, and, when necessary, opium and stimulants. In the meantime the carbohydrate feedings are carried on and other measures are kept up. It may be necessary in the course of a few days to use a few drams of meat broth to flavor the cereal waters if the child tires of their flat taste.

By these means the patients are nourished and sustained until the severity of the affection abates. The fever subsides, the stools are fewer and become more fecal in character, the blood disappears from the stools and the mucous largely does so, and frequently there is normal yellow showing through the black of the bismuth. And, best guide of

all, that indefinable something compounded of all past experiences, tells us that the patient is better. Immediately comes up the subject of proteid food; for if it is not given soon we face the risk of marasmus; while if improperly given it may undo all our work. Many a case that has come through the stormy period of the disease is lost at this point. Often our nicest judgment is shown in the way we meet these two problems: 1st, when to begin proteid feeding; 2nd, in what form to administer it. As mentioned above there are a few guides, but we have to depend largely on experience and judgment. As to the manner, we know that we must begin with small quantities, increasing them as rapidly as we may. As to the form, we also know that there is much dispute. In the light of Kendall's methods we may say that whatever the form it must be a food low in proteids which are protected by a high percentage of carbohydrates.

My own practice has been to start with condensed milk. It has seemed to give better results than anything else tried. My feeling about it has been that since it is sterile, is low in fat and proteid—the difficult elements to digest at this time—and high in carbohydrates—the easiest of digestion—that it formed the safest food of the proteid class to start with. Besides, if the intelligence of the nurse or mother happens to be a factor to reckon with at this time it is much superior to whey or any other modification of milk. In the light of Kendall's views this proteid food is lifted from an empirical to a scientific foundation. In giving it I begin with a dram, or in some cases $\frac{1}{2}$ or $\frac{1}{4}$ of a dram, in the usual feeding of barley water, giving this in the forenoon as digestion is strongest then, and we have the day to watch for adverse symptoms. If all goes well, the next day this amount is put into two or three feedings, separated from each other by feedings of barley water flavored with broth. Thereafter the quantity and the number of feedings are increased as rapidly as one can with safety. It cannot be too often emphasized that the effects of the food must be watched as carefully as those of any drug. It is lack of care at this time that often gives us the cases of chronic indigestion, or even causes us to lose the patient. According to the age other foods are speedily added; one-half of a small soft egg, dry bread crumbs, then scraped meat, soft rice, and the like; avoiding for a long time vegetables or any food which leaves much residue to pass over the lower bowel which, having borne the brunt of the disease, is sensitive from old wounds.

When condensed milk is increased to

three or four drams per feeding, skimmed milk is boiled and added, two to four drams at a time. This is increased carefully, but rapidly, and replaces the condensed milk. The barley water is diminished as the milk is increased, and cream is cautiously added also, but increased much more slowly than was the milk.

At any time that unfavorable conditions arise, such as fever, diarrhoea, &c., castor oil should be administered and the milk stopped, or reduced according to the severity of the symptoms. In such cases it always pays to make large reductions, if they are needed at all; never mince matters here. When the symptoms subside and one has his bearings the advance is resumed.

If cow's milk should disagree, or the baby should fail to thrive on it, never forget to give mother's milk a trial.

Tonics are now in order, and Tr. Nux Vomica is especially indicated when there is abdominal distention from the loss of muscular tone. If this distention seems aggravated by starch indigestion, dextrinizing the cereal with cereo or such preparation will probably overcome it.

Constipation is relieved by enemata, and throughout the ensuing hot season 24 hours should never pass without an action of the bowels—the enema being given to secure this. For at least a year the baby should be under observation, especially through the next summer. The ease with which a baby's digestion is upset, often for two or three years, shows that he has not entirely recovered from the effects of the disease.

In the way of treatment, two other procedures recently recommended as promising are: Injections into the bowels of one pint of three per cent. silver nitrate solution, after an initial cleaning with sterile water; and claiming still better results is the use of polyvalent antidyenteric serum.

A newly discovered factor in the production of a few cases of summer diarrhoea is the gas bacillus. The symptoms are much the same as in the case of other etiological factors but the usual treatment is generally without results. Here, however, we have a specific in buttermilk, which of course constitutes the treatment for this form of the disease.

Resume.

I. For prophylaxis: breast feeding; pure milk, kept so; clean cool babies not over fed; and attention at once to all minor digestive disturbances.

II. In treating a case of summer diarrhoea, clean out the bowels, withdraw all food but give plenty of water for 12 to 24 hours, then feed a carbohydrate food to sustain the patient and stop production of toxins. Secure

rest for the patient and the best nursing possible. When proteid food is begun give low proteids well protected by high carbohydrates. Make all increases very carefully, remembering the dangers which lie on each side of an increase.

III. Remember that judgment and vigilance in feeding saves our cases of summer diarrhoea.

Herniotomy in Youth and Old Age.

By Dr. A. E. Baker, Charleston, S. C.

The technique of herniotomy, or any major operation, in childhood and old age in reference to preserving and favoring all of nature's vital forces, is essential in obtaining good results and lessening the per cent. of death rate. At this time of life, nature's recuperating powers are weak and will not respond readily, if at all, to therapeutic measures.

The technique, which is necessary to be observed, viz., not to permit the patient to be unnecessarily starved or depleted by purgation before the operation, administer such treatment as will put the patient in his or her best physical condition. The anæsthetic to be used should carefully be considered. Ether is my preference for many reasons—but any are safe in the hands of an expert, and not one drop of the anæsthetic should be given more than that which is necessary to produce anæsthesia. When it is given after this method, the patient has to rally only from the effects of the operation, and not the additional burden of an over dose. The patient should be on a dry and warm operating table—nothing wet to depress and lower the heat-centers. The field of operation should be prepared before the patient is carried into the operating room. The time consumed in performing the operation should be as short as possible. These are some of the requisites which determine the results in operations performed in youth and old age.

In reporting three cases of inguinal herniotomies in childhood—two five years of age, and one less than two years of age. The latter had double inguinal hernia—both operated on.

The writer wishes to call your attention to the dressing applied to wound and after-care of patient. Each wound was sealed with collodion, and no plaster of Paris applied to their tender little bodies to put them in a fixed and immovable position—a straight jacket which is cruel, to say the least. An adult, after a herniotomy, is permitted to turn and twist in the bed. Why not give the child the same privilege? The thorough method of performing the herniotomy—that of suturing separate each layer of tissue to-

gether—dispels all fear of damage to the parts, allowing free mobility to the extent that pain will permit.

Sutures used in these cases were No. 3 iodine catgut. Each recovered from the operation without any shock. About eight hours after operation these children were permitted to be taken home by their mothers, whom I deemed more competent to care for their wants and to meet every indication as regards their physical needs. Then, again, a mother can do more with her child than any one in an institution can. She knows its diet, she knows how to amuse it, and in many little ways can she make it more comfortable than strangers. When the services of a trained nurse is needed, it is advised and secured—she is only to assist the mother in executing the doctor's orders.

These children remained in bed at their homes for eight days, or more, and were given the liberty of the room. Dressings were removed on the 12th day—light adhesive dressings were applied—union by first intention, without any infection or damage resulting from liberty given.

In regard to hernia in old age: We know that after one reaches sixty, inguinal hernia in most cases is not kept up by a truss, because the muscles have been thinned out by the long pressure of the truss, and atrophied by age.

The Bassini operation is faulty for the cure of hernia in old age. The technic is to suture the internal oblique muscle and conjoin tendon to Poupart's ligament to obliterate the inguinal canal.

The upper portion of this canal, its weakest point, is the internal abdominal ring, and it is closed off by suturing the lower portion of the internal oblique muscle, through which this ring is formed, to Poupart's ligament. Here we have muscle to ligament, which gives a faulty union—like tissue to tissue gives union that will hold. The conjoined tendon which is formed by the union of the internal oblique and transversalis muscles is not a part of the closure of internal abdominal ring. It serves only to close the lower two-thirds of the inguinal canal. Therefore the upper one third of the inguinal canal, which is practically the internal abdominal ring and the weakest part of the hernia tract, has not the support of the conjoin tendon, but only the muscular fibers of the internal oblique muscle sutured to Poupart's ligament. The modified Bassini, to overcome this defect, is to suture the aponeurosis of external oblique with the internal oblique muscle to Poupart's ligament—aponeurosis to Poupart's ligament is like tissue to tissue. The cord is transplanted, resting on top of the aponeurosis of external oblique muscle, which

has been sutured with its under muscles to the shelving edge of Poupart's ligament. The external flap of the aponeurosis of the external oblique muscle (which is a continuation of Poupart's ligament) is folded over the cord and its edge sutured down, making a new canal for the cord.

Four cases were operated on who were upwards of seventy years of age. Three of them were suffering from interstitial Brights—atheromatous arteries. The other one was very plethoric and used alcohol to the extreme limit. This rendered general anesthesia unsafe. These four cases were operated upon by the method just described, under a local anæsthetic (cocaine) and made uneventful recoveries; absolutely no shock following operation, and convalescence was very rapid.

Linen sutures were used to suture the external aponeurosis and internal oblique muscle to the shelving edge of Poupart's ligament—both of these layers of tissues were included in this one row of sutures, as above stated. Linen or silk is preferable in this class of surgery at this time of life. There is no danger of the union of tissues giving away in after months. The linen or silk, not being absorbed, holds for all time. Catgut is my choice of sutures under other conditions.

Surgical Interference and Irrigation of Colon in Treatment of Pellagra.*

By A. D. Cudd, M. D., Medical Director of Good Samaritan Hospital, Spartanburg, S. C.

Mrs. P., Whitney, S. C., was admitted to Good Samaritan Hospital May 27, 1910.

Age twenty-three, married at twenty. Mother of two children, ages three and one years, (younger child died later in September of bowel trouble).

Mrs. P. was reared and has since lived near Spartanburg. Besides infantile diseases was healthy during childhood. Has not been sick except with bowel trouble for the last ten years until two weeks before entering the hospital pellagra rash appeared on hands and face.

Condition on Admittance.—Appetite poor, mouth sore, colonic tenderness, and troublesome hemorrhoids with frequent offensive stools containing large quantities of mucus and blood. Tender and enlarged right ovary, profuse and almost continuous menstruation, urine normal, temperature 100, pulse 98, respiration 23. Skin very dark, eruption showing on face and hands. Did not sleep well. Facial expression showed depression.

*Read before the Fourth District Medical Association in Greenville, S. C., November, 1910.

Treatment.—The uterus was curetted. Hemorrhoids and right ovary were removed, and appendicostomy performed. On the third day the end of appendix was removed, thereby making a natural tunnel through the abdominal wall through which the colon was irrigated twice daily with an alkaline antiseptic solution. The stools being acid in reaction, an alkaline solution was preferred in order that the colon might return to its normal state or reaction.

After treatment for one month, patient was apparently well, having very few stools except when irrigated. The rash had disappeared, the mouth healed, and patient had good appetite, taking six or eight raw eggs and milk daily in addition to general hospital diet. At this time the physical and mental improvement was so great and she was so anxious to return home, that she was permitted to leave the hospital with instructions to keep up irrigations and diet for at least six months.

Mrs. D., from Pacolet, S. C., was admitted to the hospital June 17, 1910.

Condition on Entrance.—Temperature 99, pulse 90, respiration 20. Very pronounced rash on hands, forearms and neck, sore mouth, very frequent stools with foul odor, enlarged ovary, almost constant menstruation, and mental condition not at all good.

Uterus was curetted, a cystic right ovary was removed, and appendicostomy was performed. Treatment was carried out as in former case, with marked improvement noticeable in forty-eight hours after treatment began. She left hospital apparently well, and when last heard from was doing well.

Mr. T. came to hospital suffering from pellagra in its worst form.

Temperature 103, back of hands and forearms denuded and secreting foul pus, mouth and throat almost gangrenous with profuse dark sputa and a general septic condition.

Appendicostomy was performed. The patient died on third day after treatment was begun.

Mr. C., from Gaffney, S. C., was admitted to the hospital September 4, 1910.

He had been suffering from disordered bowels eight years, and gave history of having had eczema several years ago.

His mental and physical symptoms of pellagra indicated advanced stage. He gave history of having had a number of relatives die of consumption. In this case we did an appendicostomy as in each of the cases above mentioned. At the end of the month mental condition was good, rash had disappeared, bowels normal and patient's only complaint seems to be that of weakness.

In each of the above cases there was a

family history of tuberculosis given.

After leaving the hospital and during the illness of Mrs. P's. baby she discontinued her irrigations. In September she returned to hospital. Irrigations were immediately commenced with bisulphate of quinine, grs. 10 to 1 qt. sterile water each morning for three weeks, at which time bisulphate of quinine was increased to grs. 20 to 1 qt. sterile water every other morning with the hope of destroying any pathogenic amœba that might be present.

Every third afternoon colon was irrigated with 1-5% solution nitrate silver which was gradually increased to 1-2% with hope of stimulating any relaxation or ulceration of mucus lining of colon. The two intervening afternoons normal salt solution was used for irrigation with marked improvement in both mental and physical condition. She again returned home against our better judgment.

WHY I DID IT.

While I honor and appreciate all leaders of the profession I do not believe that the entire medical profession should follow their few leaders, when they lead to death in every instance. Why not stop and about face, for you cannot do worse than they would have you do in these awful incurable diseases. Study what you have with what help you can secure, from whatever source you may obtain it.

Take pellagra,—in ninety per cent. of all cases you have a continual or a periodic diarrhœa as the first symptom, and we are taught that the colon is the cess pool of all pathogenic germs of the intestinal canal. We see in children and adults sore lips, tongue, and mouth from stomachic or intestinal disorders. Then we see delirium in typhoid fever, and so-called congestion of the brain in children with interocolitis, etc. Both of these with many others are said to be caused by absorption of poison from intestinal disorders.

Thus we would explain these symptoms in pellagra. As for the rash on hands and neck, I have no theory, but who can tell what is the cause of the rash in measles, typhoid fever or smallpox? Therefore, after long and careful study, due trial and strict examination, and failures on every hand with every treatment known to the medical profession, I claim it is time to study and treat your cases differently from those that have always proven fatal.

Knowing that I was going to subject myself to more or less criticism, but with the assistance and encouragement of my friends, Drs. Leonard and Chapman, I performed my first appendicostomy for pellagra on Sunday, May 29, 1910.

In conclusion, I believe that the pellagra germ will be found in the class with that of tuberculosis, and that the colon will be found to be its most frequent habitat, with probably rare infection of different parts of the body independent of colonic infection.

I believe that irrigation is the best treatment known at present, but I do not believe that the irrigation has been therapeutically perfected.

There is a great field for study and work through the appendix, though often rejected or ejected by the surgeon, and sometimes spoken of as an error in the human anatomy, at the same time Divinely arranged so that the surgeon might easily establish a tunnel through the abdominal wall through which to carry his antiseptic solution directly into this cess pool of myriads of pathogenic germs and destroy them while they had heretofore been practically undisturbed in their warfare against human economy.

Vesical Tuberculosis.—Breton (Annales de l'Institut Pasteur) has made an experimental study of this subject. The bladder lesion is generally regarded as secondary to a tuberculous infection of the kidney or genital organs. Primary tuberculosis of the bladder is rare. Experiments by other workers have shown the possibility of grafting tubercle bacilli on a traumatized bladder or on one the subject of retention, but direct inoculation by simple instillation is exceptional. The author draws the following conclusions from his experiment: The susceptibility to vesical infection varies with the kind of animal employed; it is commonly believed that in man the bladder may be polluted without danger by a tubercle containing urine without generalized tuberculous infection resulting, the healthy bladder not being normally permeable to the bacillus. It is possible that, owing to their mildness, lesions in cases of tuberculous cystitis pass unrecognized. The kidneys are here involved as a result of ascending infection. It is generally held that renal tuberculosis is a blood infection. Even where lesions of the genital organs precede the kidney infection, the tuberculous products are probably carried by the blood stream to the glomeruli. But the author's experiments do not support these theories. In the rabbit and guinea-pig infection occurs by way of the lymphatics. The bacilli travel first by the thoracic duct and have to pass the various gland barriers before they are thrown into the general blood stream. It is a lymphatic infection before it becomes a blood infection. Lastly, the author states that his observations afford

one more proof of the frequency of tuberculous infection of the lung by way of the lymph blood-stream.

The Choice of Tuberculin.—Bluemel (Muench. med. Wochenschr.) says that the number of tuberculin preparations on the market is truly bewildering. Many of them, he says, have absolutely no therapeutic value, and of those which are really active, the difference between the various ones lies simply in the concentration and absorbability of the preparation. The Koch tuberculin and the tuberculin of Landmann accomplished everything that lies within the power of tuberculin therapy, and are to be recommended because they are easily obtainable, and of standard quality. The most important factor in this method of treatment still remains—the skill and intelligence of the physician. He must be able properly to graduate the dosage and to recognize harmful effects of too large or too frequent dosage. In proper hands he believes the tuberculin have a decided place in the treatment of tuberculosis, but he reminds the reader that a faulty application can make the best therapeutic agent useless.

Diagnosis of Scarlet Fever.—Gordon, in *The London Practitioner*, says that whether there is or is not one definite organism which is the *causa causans* of scarlet fever, the disease is in practice a mixed infection, and we do not know to which constituents of the bacteriological mixture the various symptoms are due. The practical outcome of this is that from a patient suffering from an undoubted attack of scarlet fever a susceptible person may contract either scarlet fever (which may be of the same type as the parent case, or may differ from it in type or intensity) or a simple tonsillitis or a severe ulceration of the fauces, both these latter being just as definitely streptococcal in origin as scarlet fever itself, though neither patient is suffering clinically from scarlet fever. In the acute stage the chief fallacy lies undoubtedly in the tendency to focus out attention on the eruption. It is more usual for the erythema which accompanies a follicular tonsillitis not to have the punctate character which is usually associated with scarlet fever, but the fallacy here is that in the latter disease the rash is often never punctate at any time or on any part of the body, but may be quite uniform and blush-like. We can perhaps get a little help from one point in the distribution of the eruption in scarlet fever, namely, its predominance (and persistence) in the groins and axillæ, a feature which the writer has never seen except in scarlet fever, though it is by no means always

present in this disease. What is important about the eruption is its relation in point of time to the onset, and when an erythema of any kind appears within the second twenty-four hours after the initial vomiting, the case should be regarded as scarlatinal until we are absolutely sure that it is not, even if we have to wait for two or three weeks. As regards the throat symptoms, the point of most value is the coexistence of exudate on the faces with a peeled and papillated tongue. In the group of cases where we are told that a patient has been suffering previously from an illness which may or may not have been scarlatinal, we have, in the absence of any of the signs already mentioned, or of desquamation, only two points which are of value. One of these is the presence of dark brown isolated follicular raised spots on the outer aspect of the legs or arms, not thighs or forearms. These, when well marked, are practically diagnostic of scarlet fever, but they are not present in more than about 50 per cent. of the cases of that disease. Another sign is slight albuminuria combined with repeated (three or four) negative cultures for diphtheria bacilli from the fauces. In a third group, where we see the patient for the first time when he is peeling, we are again met with some fallacies. One is that peeling always denotes a previous attack of scarlet fever, and the other is that cases of scarlet fever always peel. Practically there are three types of peeling of the skin which are characteristic of scarlet fever, namely, ringed peeling, which is usually most marked on the neck, chest, shoulders, and ears; secondly, glove peeling or shedding of the cuticle of the fingers and toes en masse; and thirdly, peeling (of any type) starting on the hands or feet after an interval of from a week to three weeks from the disappearance of the rash. Indefinite or profuse branny desquamations are not characteristic of any diseases, and they may be produced, in particular, by unwonted washing. There are undoubtedly cases of true scarlet fever in adults where there is no desquamation at all; but children always peel in one or more of the aforesaid ways. The super-vention of acute nephritis, with blood in the urine, when combined with desquamation is practically pathognomonic of scarlet fever. Otorrhea is not at all conclusive, as it may follow just as readily from a non-specific tonsillitis; similarly the presence of nasal discharge is of very little help, especially when adenoid vegetations are present.

Charlotte Medical Journal

Published Monthly.

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CHARLOTTE, N. C.

FLEXNER'S REPORT CONDEMNED.

The Council on Medical Education of the A. M. A. and Flexner's report on the condition of medical colleges, which has excited so much attention, is reacting. Sound men everywhere recognize that these efforts were scholastic and not founded on good sense and practical experience. A dozen papers have appeared within the last six months, condemning the extreme laboratory requirements and teachings of many of the large colleges as impractical and only valuable for advanced students.

The arbitrary and dogmatic claims of what a medical college should be are reacting, and now the pendulum is turning. One of the notable protests comes from President Hamilton of Tuft's college in Boston in which he says, after a years' trial and a careful study of its effects in other colleges, he is convinced that the requirements now called for have not improved the quality of the men admitted, and that instead of raising the standard of medical practice, it will practically lower it.

Demanding college degrees and high school diplomas as a necessity to enter the medical colleges, drives away a number of men who have had a far better preparation for practice as nurses, drug clerks, teachers and in other vocations of life, than the boys with a college degree, with not infrequently vicious habits and egotistic conceptions, which mar their whole after life.

The high school graduates who are often most incompetent to enter upon any serious work of college study, and unsettled in their conceptions of life and never can succeed, because of immaturity, incompetency to judge and unwillingness to study, except in the most profunctor manner.

He asserts that the schools which have prospered most from the bitter arraignment of the Carnegie Report and the foolish efforts of health boards to raise the standard have been the small, poorly equipped colleges.

He says "No set of purely mechanical tests can ever determine the student's ability to do college work. The colleges are in great danger of yielding too far to the standardizing pressure, and forbidding entrance to, and actually driving out, some of the best and most promising youths of our country. It is true that the strict

standard shut out many a boy of earnest purpose and great natural ability, who has all the real qualifications for a future scholar, lacking only the artificial ones. Many such young men are either barred from higher education altogether or forced to seek it in inferior institutions."

He says "Personally, I believe there is much justice in the complaints of the secondary school teachers, that the colleges are far too rigid in their demands and too technical in the enforcement of them. I have much sympathy with their demands, that the colleges should meet the schools half way, instead of compelling the schools to be governed by them."

He declares that the entrance to colleges should be governed by the man, his life, his history and his general qualifications, not his technical knowledge. He asserts that small colleges can do far better work than large endowed institutions, and hopes that Tuft's College will never have more than 500 students in any one department. Beyond that their usefulness is very limited.

He outlines clearly the fact that all the smaller colleges, those that are called weak and poor, are profiting immensely by the foolish arbitrary standards of the so-called great colleges. Even the quacks feel it. The osteopaths and other pathies have increased classes and they are more and more popular as a direct result of shutting out men by rigid requirements that would make very respectable practitioners in the future.

While this is a tremendous jar on the conceited assumption of exact knowledge of what the colleges should and should not do, it is only the reaction which naturally comes from foolish scholastic efforts to revolutionize present systems, regardless of the exact conditions.

While there are many poor medical colleges in the country, they can't be driven out by law, nor arbitrary rules of political health boards. Public sentiment must show the proper schools and the proper methods of education before the army of medical students will seek them. In the meantime the quacks thrive and flourish and many a good man who wishes to practice medicine, but is prevented from getting a legitimate education, falls into the hands of quack colleges and comes out to prey on the community or to follow some fads that lower the standard of medicine.

The A. M. A. and its assumptious trust principles carried to an extreme is drifting on to rocks that will certainly wreck it, and its managers ought to see the impending storm ahead and recognize that the great body of the profession cannot be driven or organized under cast iron rules to follow absolute lines of science.

Colleges, like every other institution, will go up and down on their merits, and whether they are endowed or not, they will live if supported by clear brained intelligent men.

THE NEW METHOD OF PRACTICE.

It begins to dawn on clear thinking men that something more must be done to increase the value of medical services, and to make available the capacity of the physician along higher lines of medicine and prevention of disease.

In some sections of the country medical men are starving from competition. In others they are overworked, and there is great irregularity which the A. M. A. is trying to regulate by organization and trusts.

Outside of all this there has come a new movement which is growing rapidly in the large cities, and it undoubtedly will come into great prominence in the near future. This movement, like the first flash of dawn, is unheralded and unnoticed, but nevertheless it is coming on steadily, and slowly bringing in a new era and settling some of the great problems that at present distress the medical world.

This new practice is of retaining physicians, the same as lawyers in large corporations, who are given a fixed fee for looking after the interests of their clients, preparing their papers and deciding all questions of responsibility, and thus preventing legal action and legal disturbances.

Wise business men have lawyers retained to defend their interests as a matter of economy and sound judgment.

In medicine the same thing is coming. A man pays his physician a fixed sum for calling on his family once or twice a week as may be agreed upon, and for advice on all other occasions. He becomes the family advisor in health matters, and the consultant to anticipate and prevent possible diseases. The more intimate his knowledge with the family, the more valuable his services become, and the family learns to depend on him in all questions of living and matters that pertain to health and vigor.

This service is paid for, so much a year, and the physician knows his exact income and the requirements expected, and has something literal and real to work upon. The fees for such services increase from year to year. The man with a family, who pays \$100 or \$200 a year for the attention of the physician finds that it is the greatest economy and wisdom, and the physician becomes more and more valuable, and his yearly practice is paid for at higher rates.

In a little country village in New Jersey one physician has forty patrons, and the

income from these is a comfortable salary and the services are most delightful, because devoid of night work, sudden calls and strains and of the nature of a consultation with very little drugs. This practice does not include surgical or obstetrical cases which are charged for extra, but covers all the ordinary disturbances of health that are likely to occur.

A half dozen medical men in New York are doing this business exclusively. Men of wealth find it very practical to keep a physician constantly employed. Men who are poor find it equally practical and many physicians are ready to do such work at a fixed salary agreed upon.

In a little country village in Pennsylvania, a doctor succeeded in persuading a large number of patrons to employ him in this way, and the results were so satisfactory that the number has increased, until now more than half of the practice in the village is done on this principle.

It cannot be called contract work, in the sense of that term. It is not an agreement to treat sick men for so much a head per year, but an agreement in which the man and his family pay a certain sum for attention and assistance during a stated period, these services to be given constantly.

The old family physician was literally a retained doctor, although not called unless some one was sick.

The modern man will do the same work, only he will come in regularly and will know the various conditions of life, of eating, sleeping and working and be able to point out the errors and the conditions that will lead up to disease, and show a world of preventive medicine, which after all is the highest realm of medical practice.

The colleges will train men to become consultants and not plumber surgeons, and speculative therapeutists. Then the rush and strain of the present will disappear. The competent medical man will take his place in every community, be paid for his services, and attain the rank which he deserves. This new field of practice is just before us, and the public will realize the increasing value of services in the prevention of disease, rather than much of the stupid, blundering efforts to cure as at present.

RICKETS—PREVENTION OF DEFORMITY.

One reads so rarely about the prevention of the deformities due to rickets—instead of their correction, after they have occurred—that a few words concerning the subject appear in order.

The dietetic and medicinal treatment of the condition need not be considered; such measures are sufficiently described in thera-

peutic text books, and well enough known to obviate the necessity of a repetition. Chief among the deformities are those of the chest and spine (*Pectus carinatum et excavatum*; scoliosis) the arms (*Cubitus varus et valgus*) and the legs (*Genu valgum et varum*). All are more or less directly due to mechanical over-exertion and error, and are preventable. For it must be understood that one is dealing with a skeleton which is in no wise fitted to perform normal function. Great is the mistake, therefore, to demand even more than ordinary work of this weakened supportive frame. Though outdoor life, fresh air and sunshine are very beneficial, active exercise is disastrous.

The child is apparently not ill enough to make frequent medical inspection necessary; but when one sees the numerous flat-chests, lateral curvatures and limb deformities resulting from well meant active remedial measures, undertaken by uninformed parents; or from unrestricted going or playing around carelessly permitted during the active, progressive stage, one may be pardoned for suspecting that a serious affliction has been dealt with too lightly.

Instead, the child must be maintained in the recumbent position—so that the skeleton is put at rest completely until the softening of the bones has been entirely overcome. The act of assuming the erect attitude, sitting up, creeping or walking are most harmful, and should not be permitted at all while the rachitic tendency persists. As the condition is usually one of early childhood, the means are simple and easily applicable. The child is measured for and placed upon a gas pipe frame, as is suggested and illustrated in Orthopedic text-books under various names for the treatment of infantile Potts Disease. This frame is made of $\frac{1}{2}$ inch gas pipe, about four inches longer at each end than the child's body; the width equal to that of the shoulders measured from tip to tip of the Acromion processes. It is covered with flannel bandages and a thick piece of canvass, laced in the back. At the region of the buttocks a piece of rubber sheeting is sewed, to prevent soiling; and under the head a small pillow may be placed. The child—dressed in undershirt and diaper or drawers and stockings—is laid on its back upon this frame, and snugly attached to it by means of a canvas apron, covering chest and abdomen, with straps and buckles—which must not constrict more at one place than at another nor be too tightly drawn. Over frame and child the regular loosely fitting clothing is drawn and buttoned.

The child rests upon the frame all the time, and can be carried or wheeled about very easily. Every evening the straps are

unfastened, the child is rolled over on a table or bed; the body is washed and massaged thoroughly and it is then promptly strapped upon the frame again.

The parents and the child soon become accustomed to its use; and can easily be instructed as to the dangers attendant to carelessness upon their part. The cheapness and ease of construction of the frame are greatly in its favor; and the results following its consistent application are gratifying. Another advantage is that the child cannot be carried in any vicious attitude—avoiding trunk deformity—and no hindrance is placed to full normal growth.

PREVENTION AND CORRECTION OF DEFORMITIES FOLLOWING ACUTE ANTERIOR POLIOMYELITIS.

Though not frequently fatal, the disease is of destructive influence on the body functions, in that it leaves so many parts of the body either completely or largely paralyzed. Upon the extent of this paralysis rests the future functional usefulness of the parts, and such distortions as follow the acute attack are directly due to the irregular distribution of the paralysis. It is therefore necessary for the physician in charge to acquaint himself with the extent and location of the paralysis at as early a date after the acute stage as is possible. This finding is of course not entirely conclusive, for a certain amount of regeneration usually takes place in the affected parts, or an extension of the affliction at times occurs. But it at least gives an insight into the status paralyticus, and points toward the proper amount of retentive and reconstructive treatment.

Acute anterior poliomyelitis is directly destructive to the spinal cells; it rather rarely extends to the brain. The first aim in treatment should be to protect this extremely damaged nerve complex from further injury or strain, so as to prevent exacerbation and extension of the inflammatory process. This is best done by retaining the body in the recumbent attitude either upon a portable frame, or in a wire or plaster of Paris cuirass, the limbs by means of broad bandages being meanwhile held in their normal attitudes. This quiescent period usually extends over five to ten weeks; local repair in the cord may be assisted by means of counter-irritation to the back over the spine, and the health tone kept up by general, light massage and manipulation within reasonable limits.

As the stage of repair sets in, it is necessary to aid and support the affected parts by means of appliances. Unless the paralysis is extremely light no limb can grow to usefulness excepting it is retained in a

splint, which must support it in such a way that the muscles can work to the best advantage, and the joints are relieved from strain; otherwise distortions, contractures and deformities occur too easily. These vicious postures are due either to the unopposed, or insufficiently opposed, activity of the muscle-groups not paralyzed, upon the part controlled by them (i.e. contractures), to the influence of weight (i.e. flail joints) or to unsupported weight bearing upon the palsied limb (i.e. distortion; dislocation). The braces should be applied in such form and of sufficient length to counteract these factors of deformity. They should neither be too bulky, nor too heavy, nor should any of their parts constrict the supported limb. In the brace as much functional use as possible of each part should be permitted; and active locomotion in the erect attitude must be undertaken several hours daily. Local remedial measures, such as massage, electricity and hydrotherapy should be applied daily to the affected parts; and mechano-therapy, through its regulated and controlled exercising function, is of great value, strengthening the weakened muscle groups, stretching shortened, inelastic tissues and improving the local trophic conditions and the general tone.

Should withal deformities occur, these can be corrected by operative measures. Bony deformity is overcome by means of osteotomy or osteoclasia; contracture by either subcutaneous or, if extensive, open tenotomy. If important muscle groups have remained paralyzed, their usefulness can be renewed through tendon transplantation or muscle grafting from an approximate active muscle, or by nerve anastomosis. And should practically the entire limb, or part, remain palsied, arthrodesis—with a consequent stiff but correctly placed joint—will frequently make it a very useful member.

EDITORIAL NEWS ITEMS.

Dr. Chas. L. Summers, of Winston-Salem, N. C., has gone to Europe to spend the next year, where he will do post-graduate work in hospitals in Vienna, Berlin and London.

Dr. F. B. Watkins, who has been an assistant physician at the State Hospital in Morganton, N. C., for several years, has been appointed first assistant by Dr. McCampbell, Superintendent of this institution, to fill the vacancy caused by Dr. Jas. K. Hall's resignation.

Dr. Watkins graduated in medicine from the Jefferson Medical College in 1907.

The following card has been received: Dr. James K. Hall, Dr. Paul V. Anderson, Dr. Edward M. Gayle desire to announce the opening on October first, nineteen hundred and eleven of Westbrook Sanatorium in Richmond, Virginia, for the treatment of nervous and mild mental cases, alcoholic and drug addictions.

New laboratories, completely equipped for post-graduate medical instruction and research, have been organized and opened at New York Post-Graduate Medical School and Hospital. The director is Jonathan Wright, M. D., and the staff includes: Tropical Medicine, in collaboration with the medical departments of the Army and Navy: James N. Phalen, M. D., Capt. Med. Corps., U. S. A., Francis M. Shook, M. D., P. A. Surg., S. U. N.; Bacteriology: Ward J. MacNeal, Ph. D., M. D., Richard M. Taylor, M. D.; Pathology: Ward J. MacNeal, Ph. D., M. D., Oliver S. Hillman, M. D.; Biochemistry: Victor C. Meyers, Ph. D., Morris, S. Fine, Ph. D.

Dr. T. E. Hughes, of Magnolia, N. C., has given up his private practice to accept an appointment as district director of the campaign against hookworm disease.

He is a graduate of the Medical Department of the University of Virginia, and received quite extensive training at Johns Hopkins Hospital in Baltimore. We feel confident that Dr. Hughes will be very successful in his new field.

Dr. Ira M. Hardy, of Washington, N. C., was recently elected superintendent of the State School for the Feeble-minded. The preliminary steps for the erection of such buildings as are at present contemplated have been taken, and the work on same will be begun in a few weeks.

The following announcement card has been received in the Journal office:

Dr. Howard T. Williams announces the opening of the Williams Private Sanatorium for the treatment of Diseases of Women, Abdominal Surgery and General Surgical Diseases. You are cordially invited to call and inspect the Sanatorium, 722 Spring Street, Macon, Ga.

The Fifth District Medical Society of North Carolina held its regular quarterly meeting at Hamlet on October the 12th. The meeting was held in the office of Drs. W. A. and J. P. Monroe. Several valuable papers were read and discussed.

The next meeting will be held in Fayetteville, N. C.

The physicians of South Carolina met at the State Hospital, in Columbia, on November the 2nd for the consideration of the pellagra problem in the United States. There were many interesting papers read on this topic, and the meeting was in every way a success.

Dr. C. H. Lavinder, Passed Assistant Surgeon of the United States Public Health and Marine Hospital Service, was present at this meeting, and his address was of great interest.

Dr. R. L. Crawford's home, in Lancaster, S. C., was destroyed by fire on October the 3rd.

State Hospital of South Carolina.

Work has been begun on the new State Hospital in South Carolina, and the building will be completed as soon as possible.

There are over 1600 patients in this institution now, and they are very much in need of more room. The commission will this year expend \$200,000 on new buildings.

The plant at "State Park" will be enlarged from year to year, with a view to finally removing the old asylum from Columbia.

Marriages.

The marriage of Dr. Harry A. Wakefield, of Charlotte, N. C., and Miss Sadie McCauley, of Salisbury, N. C., took place on October the 11th.

Dr. Wakefield is the eldest son of Dr. and Mrs. W. H. Wakefield, of Charlotte, and he is making good in his specialty—the eye, ear, nose and throat.

He is secretary of the Mecklenburg County Medical Society, and a member of the North Carolina Medical Society.

Dr. Wakefield graduated in 1908 from the North Carolina Medical College.

Dr. V. M. Long, of Winston-Salem, N. C., and Miss Hannah McLaughlin, of Charlotte, N. C., were married on October 11th.

Dr. C. L. Strodner, a talented young physician, connected with the North Carolina Hookworm Commission, was married to Miss Rosa Vertua Meredith, of Greensboro, N. C., on September the 14th. They are living in Goldsboro, N. C., for the present.

On October the 18th, Dr. Lucius Victor Dunlap, of Albemarle, N. C., was married to Miss Margaret Ethel Bostian, of China Grove, N. C.

Dr. Dunlap graduated from the Medical

Department of the University of North Carolina in 1909, and is a young physician of marked intelligence.

Dr. Henry Bettis Malone, a prominent young physician of Chester, S. C., was married to Miss Lela Alma Bleacher, of South Boston, Va., on September the 6th.

Dr. Malone graduated from the North Carolina Medical College about two years ago. Since his graduation he has been associated with Dr. S. W. Pryor at the Magdalene Hospital in Chester.

Deaths.

Dr. J. A. Pettit, a prominent physician of Roseland, Va., was shot and instantly killed by Benjamin Hubbard on Sept. 25th. An ancient grudge is said to have been the cause of the tragedy.

Dr. Pettit graduated from the Medical Department of the University of Virginia, having received his degree in 1896.

Dr. A. W. Hamer, a retired physician of Laurinburg, N. C., died at his home on August 10th. Until he retired from active practice, three or four years ago, Dr. Hamer was one of the leading physicians of his section of the State.

Dr. Hamer graduated in medicine from the Medical Department of the University of South Carolina in 1858.

Dr. W. P. Exmer, a prominent physician living near Snow Hill, N. C., died at his home on August the 24th. He was a good physician and a good citizen. He was the father of Dr. W. P. Exmer, Jr., of Saulsboro, N. C.

Dr. Wm. G. Johnson, of Farmington, N. C., died at his home on October the 21st. He was 67 years old, and a man who was held in high esteem by all who knew him.

Dr. Johnson graduated in 1870 from the Medical Department of the University of Pennsylvania.

Dr. W. R. Wilkinson, one of the most popular physicians of Alabama, died at his home at Westmoreland on October the 17th. He was a surgeon in the Confederate army, and a gentleman of high esteem in his community.

He graduated from the Medical Department of the University of Tennessee in 1868.

BOOK NOTICES.

A Pocket Medical Dictionary, giving the Pronunciation and Definition of the Principal Words Used in Medicine and the Collateral Sciences. By Geo. M. Gould, A. M., M. D., author of "The Illustrated Medical Dictionary," "The Practitioners Dictionary," and the "Student's Medical Dictionary." Sixth Edition. Revised and Enlarged. 34,000 words. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1911.

This dictionary gives very complete tables of the arteries, muscles, nerves, bacteria, bacilli, micrococci, sprilla, and thermometric scales, and a new dose-list of drugs and their preparations, in both the English and measures, based upon the eighth revision U. S. Pharmacopœia, also a veterinary dose-table.

The book is small, with a black flexible binding with gilt edges and is in every way very neat in its make-up. We are glad to have the privilege of recommending this Pocket Dictionary to our readers.

The price of this book is \$1.00.

The House-Fly Disease Carrier. An Account of its Dangerous Activities and of the Means of Destroying it. By L. O. Howard, Ph.D. New York: Frederick A Stokes Co., Publishers.

It has only been within the last twelve years that the dangerous character of the common house-fly has been known.

This book is not intended to be a scientific monograph; it is simply an attempt to tell in an understandable way what is known about the subjects indicated in the title.

The author has been very successful in his effort to bring a clear, concise vision of the dangers of the house-fly to the people in general.

This is not a book which is beneficial to the medical profession alone, but also to the layman as well.

We are glad of an opportunity to recommend this book to our readers as one helpful to everybody alike.

Its binding and illustrations are in every respect neat and up-to-date. The illustrations are especially fine.

The Healthful Art of Dancing. By Luther H. Guleck, M. D., Author of "The Efficient Mind" and "Mind and Work." Illustrated from Photographs. New York: Doubleday, Page & Co. 1910.

Dancing is the most universal of the arts, and possibly for this reason the author has seen fit to write this little book.

The author says in his preface: "In this little book I aim to give a constructive

treatment of one of the resources for the expression of the joy of life, a resource that is related to health, vigor and beauty—dancing."

The illustrations contained in this volume are of an extraordinary type and are well arranged. The binding is attractive, and the whole make-up of the volume shows that the publishers have spared no pains in carrying out their part of the work connected with this book.

The Practical Medicine Series. Comprising ten volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume VI. General Medicine. Edited by Frank Billings, M. S., M. D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, A. M., M. D., Professor of Medicine, Chicago Clinical School. Series 1911. Price \$1.50. Chicago: The Year Book, Publishers, 180 N. Dearborn St.

In this volume VI of the 1911 series, we have discussed "General Medicine." While it is not a volume much larger than the others of this series, yet we feel that it really has more in it, which will be found of value to both the medical student and the general practitioner. The subjects pertaining to general medicine are dealt with in a clear, but condensed manner, touching upon the points of greatest interest and most importance.

This, like the other volumes of this series, is well bound, carefully indexed and is very attractive in its appearance.

Practical Pathology. A Manual of Autopsy and Laboratory Technique for Students and Physicians. By Aldred Scott Warthin, Ph.D., M.D., Professor of Pathology and Director of the Pathologic Laboratories in the University of Michigan, Ann Arbor. Second Edition. Rewritten and Enlarged. Mortui Vivas Dacent. 310 pages and 55 figures. Price \$3.00. Ann Arbor: George Wahr, Publisher. 1911.

The first edition of this work was published about ten years ago. It will be noted by those who are so fortunate as to possess the first edition, that this second edition is almost double the size of the first. The manuscript of the first edition has been entirely rewritten, with the addition of all the new matter and experiments along these lines, which makes this volume thoroughly up-to-date in every respect.

While the text contains quite a number of typographical errors, yet notwithstanding

ing this we are glad to recommend this volume to our readers.

Its binding and illustrations are above the average.

The Practical Medicine Series. Comprising ten volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Charles L. Mix, A. M., M. D., Professor of Physical Diagnosis in the Northwestern University Medical School. Volume VII. Pediatrics. Edited by Isaac A. Aht, M. D., Professor of Pediatrics, Northwestern University Medical School; Attending Physician Michael Reese Hospital. With the collaboration of May Michael, M. D. Orthopedic Surgery. Edited by John Ridlan, A. M., M. D., Professor of Orthopedic Surgery, Rush Medical College. With the collaboration of Charles A. Parker, M. D. Series 1911. Chicago: The Year Book, Publishers, 180 N. Dearborn St. Price \$1.25.

This series of volumes, which are issued at about monthly intervals, and covering the entire field of medicine and surgery, is published primarily for the general practitioner; at the same time the arrangement in several volumes enables those interested in special subjects to buy only the parts they desire.

This volume, which treats especially of pediatrics, seems to be quite complete in every detail, giving all the latest modes of treatment of children's diseases, etc.

The illustrations are very fine and add much to the clearness of the author's descriptions. This volume, like the others of this series, is neatly bound, and makes an attractive appearance in a library. We are glad to have the privilege of recommending this volume to our readers.

International Clinics. Edited by Henry W. Cattell, A. M., M. D., Philadelphia, U. S. A. With the collaboration of Wm. Osler, M. D., Oxford; Jno. H. Musser, M. D., Philadelphia; A. McPhedran, M. D., Toronto; Frank Billings, M. D., Chicago; Chas. H. Mayo, M. D., Rochester; Thos. H. Roach, M. D., Boston; Jno. G. Clark, M. D., Philadelphia; Jas. J. Walsh, M. D., New York; J. W. Ballantyne, M. D., Edinburgh; Jno. Harold, M. D., London; Richard Kretz, M. D., Vienna. With regular correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels, and Carlsbad. Volume III. Twenty-first Series, 1911. Price \$2.00. Philadelphia and London:

J. B. Lippincott Co. 1911.

This is a quarterly of illustrated clinical lectures and especially prepared original articles on Treatment, Medicine, Surgery, Obstetrics, Gynaecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest to students and practitioners. By leading members of the medical profession throughout the world.

The articles in this volume are unusually interesting and of very great value to the medical profession.

The illustrations are of a very high type, and withal this volume appears very complete and will be a welcome addition to medical literature. We are glad of the privilege of recommending this volume to our readers.

Collected Papers by the Staff of St. Mary's Hospital (Mayo Clinic) for 1910. Octavo of 633 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, \$5.50 net.

This volume contains many valuable and interesting articles on various subjects pertaining to medicine and surgery by some of the most eminent writers of this country.

This book is printed on a high grade of enamel paper, and contains a great number of exceptionally fine illustrations.

The binding is attractive and substantial, and we take pleasure in recommending this collection of papers, bound in this manner, to our readers.

A Text-Book of the Practice of Medicine. By James M. Anders, M. D., Ph. D., LL. D., Professor of the Theory and Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College, Philadelphia. Tenth Revised Edition. Octavo of 1328 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, \$5.50 net; Half Morocco, \$7.00 net.

This work is meant to introduce to the student of medicine the author's present state of knowledge of the practice of medicine and of the diagnosis, differential diagnosis, and treatment of disease in particular.

Not less than fifty-six diagnostic tables are scattered throughout the work, the majority of which are the author's own.

This work is divided into eleven parts as follows: Part I, Infectious Diseases; Part II, Animal Plastic Diseases; Part III, Constitutional Diseases; Part IV, Diseases of the Blood and the Ductless Glands; Part V, Diseases of the Respiratory System; Part VI, Diseases of the Circulatory System; Part VII, Diseases of the Digestive System; Part VIII, Diseases of the Intestines; Part IX, Diseases of the Liver;

Part X, Diseases of the Muscles; Part XI, The Intoxications; Obesity; Heat-Stroke. This book is beautifully bound and carefully indexed. The illustrations are very carefully inserted and add much to the clearness of the text.

Dorland's American Illustrated Medical Dictionary. A new and complete dictionary of terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Veterinary Medicine, Nursing, Biology, and kindred branches; with new and elaborate tables. Sixth Revised Edition. Edited by W. A. Newman Dorland, M. D. Large octavo of 986 pages, with 323 illustrations, 119 in colors. Containing over 7000 more terms than the previous edition. Philadelphia and London: W. B. Saunders Company, 1911. Flexible Leather, \$4.50 net; thumb indexed, \$5.00 net.

To this edition the author has added over 7000 new words, and he gives the pronunciation of every word.

In a dictionary, ease of consultation is a highly important consideration. In "Dorland" it is assured by reason of three features: 1. Every word has a separate paragraph, making it easy to find a word quickly. 2. Phrases are always defined under the nouns. 3. The extremely flexible binding.

It gives the full name, nationality, speciality, and dates of birth and death of men whose names have been given to diseases, structures, procedures, etc. Also short biographic sketches of the "fathers" of medicine.

It contains extensive tables of arteries, muscles, nerves, veins, etc.—of the greatest help in assembling anatomic facts. In them are classified for quick study all the necessary information about the various structures.

It contains a comprehensive dosage and therapeutic table extending over some fifty pages, arranged alphabetically and especially designed for quick reference.

This volume is beautifully bound in red flexible leather, and will be an attractive addition to any library.

Golden Rules of Pediatrics, Aphorisms, Observations and Receipts on the Science and Art of Pediatrics. Giving Practical Rules for Diagnosis and Prognosis, the Essentials of Infant Feeding, and the Principles of Scientific Treatment. By John Zaborshly, A. B., M. D., Clinical Professor of Pediatrics, Medical Department Washington University; St. Louis; Ex-President of the St. Louis Pediatric Society; Attending Physician to the Bethesda Foundlings' Home and the St.

Louis Children's Hospital; Member of the American Medical Association and St. Louis Academy of Science; author of "Baby Incubators," Etc. With an Introduction by E. W. Saunders, M. D., Emeritus Professor of Diseases of Children and Clinical Midwifery, Medical Department Washington University, St. Louis, Etc. Price, \$2.50 net. St. Louis: C. V. Mosby Co. 1911.

The author's experience and observations has confirmed his belief that short, practical rules are interesting and useful. Quite a number of new rules have been added to this second edition under the various headings.

This is not intended for a text-book for teaching the subject of Pediatrics. Its purpose is to furnish the practitioner with practical suggestions in diagnosis and treatment.

This simple book of maxims should have a place in every general practitioner's library, and it gives us great pleasure to recommend it to our readers.

Little's Epitome of Anatomy. A Manual for Students and Practitioners. By John F. Little, M. D., of the Jefferson Medical College, Philadelphia. New (2d) edition, enlarged and thoroughly revised. 12 mo, 491 pages, with 75 engravings. Double number. Cloth, \$1.50 net. The Medical Epitome Series. Lea & Febiger, Publishers, Philadelphia and New York, 1911.

That this work has fulfilled the purpose for which it was designed is shown by the demand, which has exhausted several printings of the first edition, and has now led to the call for a revision, in which it has been brought thoroughly up to date and improved in many ways. The present revision has been placed in the hands of Dr. John F. Little, of the Jefferson Medical College, Philadelphia. This arrangement is an admirable one, for not only is the author well equipped for his task, but he has also availed himself of the valuable suggestions of Professor E. A. Spitzka, one of the foremost anatomists of this country. The volume therefore should be of the utmost assistance to students for purposes of quizzing, and to physicians and surgeons for refreshing their memory on anatomical points.

Electricity, Its Medical and Surgical Applications, including Radiotherapy and Phototherapy. By Charles S. Potts, M. D., Professor of Neurology in the Medico-Chirurgical College of Philadelphia, with a Section on Electrophysics by H. C. Richards, Ph.D., and a Section on X-rays by H. K. Pancoast, M. D., of the University of Pennsylvania. Octavo, 509 pages, with 356 illustrations and 6 plates.

Cloth, \$4.75 net. Lea & Febiger, Publishers, Philadelphia and New York, 1911.

Professor Potts has adopted a new and very original method of handling his subject, and has accomplished this most thoroughly, yet plainly and concisely. To quote from the preface:

"The custom hitherto has been to consider the physiological action, therapeutic uses, and methods of application of each form of current separately. In this volume, on the contrary, these subjects have been discussed collectively, according to a medical rather than a physical subdivision. In other words, instead of devoting one section exclusively to the constant current, another to the static current, and so on, the author has grouped these modalities according to the effects produced. Thus, for instance, in discussing the action of the electric current on metabolism, the actions of all modalities on this process have been grouped. A similar plan has been followed in the description of therapeutic procedures, for instance, the methods of using and comparative values of all forms of current in stimulating motor nerves and muscles have been presented in one chapter. This plan offers distinct advantages, since the indications for treatment lead at once to the determination of the question whether electricity would be of benefit, and if so, the form of current which would secure the best results. Such an arrangement is scientific instead of empirical. It may be said to be the only plan which affords the highest practicality for the purposes of the physician and surgeon, as it presents the subject of electricity from the standpoint of its clinical uses, instead of following the arrangement customary in books on physics and bringing in the medical applications incidentally and disconnectedly."

Numerous cross-references enable the reader to pursue any line of knowledge given in this work, and in the section on therapeutics of individual diseases the references to the physiological action will be found convenient.

The book opens with a section on the physics of electricity, from the pen of Dr. Horace Clark Richards, Professor of Mathematical Physics in the University of Pennsylvania. Dr. Potts then follows with sections on electrophysiology, electrodiagnosis and prognosis, general electrotherapeutics, methods of obtaining general and local effects by indirect action of electricity, such as the Pinsen light, and special electrotherapeutics. The volume closes with a section on the application of the X-rays, written by Dr. H. K. Pancoast, Professor of Roentgenology in the University of Penn-

sylvania, than whom no specialist on the subject stands higher. The text is elaborately illustrated. The work is moderate in size, clear in its presentations, comprehensive, modern, and suitable alike for the physician and surgeon, as well as for the student.

Currents of High Potential of High and Other Frequencies. Second Edition. By William Benham Snow, M. D., author of "A Manual of Electro-Static Modes of Application, Therapeutics, Radiography, and Radiotherapy," "Therapeutics of Radiant Light and Heat and Convective Heat," Editor of the Journal of Advanced Therapeutics, Late Instructor in Electro-Therapeutics in the New York Post-Graduate School and Hospital, etc. Published by the Scientific Authors' Publishing Co., 329 West 57th St., New York. Price, \$3.00 net.

This work has been entirely revised, rewritten and enlarged. Forty cuts have been added, and the chapters on High Frequency Currents and Therapeutics have been revised and entirely rewritten. The work contains the results of the author's personal researches and investigations, and includes most that is valuable on the subject of High Potential Currents. The developments in the subject of hypertension and its treatment by the d'Arsonval current, as well as the employment of direct d'Arsonvalization in the treatment of infection, have been thoroughly considered in this edition.

Lippincott's Magazine.

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THE ENGLISH PRINT.

More Than a Work of Art, It Was a Moral Agent.

It is interesting to reflect for a moment on the part which the print in general has played in English life. We collect prints in the first place as works of art, just as we collect china, for example; but it is important to remember that the print, like the tea cup now left in a cabinet, was once a thing in common use, so to say.

If the English print was a work of art, it was something else besides. For one thing, it was a kind of substitute for our illustrated journalism. It served up the foibles of the world of fashion, hot and hot, to the doting commoner. It made the populace acquainted with the faces and figures of everybody of importance, from princes, duchesses, generals and bishops to artists and the people of the theatre. Moreover, portraiture left the function of the print only half begun. The print was a moral agent, with a mission akin to that of the religious plates which Albrecht Duerer had long before disseminated throughout Germany. Hogarth preached sermons in his engravings, assailing idleness, extravagance and darker vices in designs that took the town by storm; The caricatures of Rowlandson and Gillray had an immense influence during the Napoleonic wars, the broadsides of these artists stirring the passions of the people like some brutally clever editorials in one of our modern "yellow" journals. It was almost literally true in those days that he who ran might read, the prints in the shop windows being so many books through

which the people swiftly seized the most vivid possible impressions of current affairs.

If, in turning over a portfolio of eighteenth-century color prints, we neglect the purely human interest in them, we miss half their significance, and it is, indeed, tempting to dwell almost entirely upon this phase of the subject; yet something we must say about technical processes and historical origins, so that we may the better grasp the color print "in its quiddity."—From Royal Cortissoz's "The Eighteenth Century Print and English Society" in the November Century.

Abstracts of the Leading articles of the month.

Surgery of the Lymphatic System.—

Handley (British Medical Journal) discusses this subject under three heads: (a) the surgery of lymphatic edema; (b) the surgery of serous effusions; (c) cancer surgery as a branch of the ablational side of lymphatic surgery. Instead of resorting to amputation in cases of brawny or dropsical arm of breast cancer, Handley performs lymphangioplasty. He buries a number of silk threads in the subcutaneous tissues of the arm, affording for the tissue fluid a permanent conduit, sufficiently unabsorbable, and not liable to obstruction by organization or thrombosis. In favorable cases it has the following effects: (a) There is complete relief from pain within 24 hours, unless the pain is partially due to some cause—such as nerve pressure—-independent of the edema. (b) There is a marked and rapid fall in the tissue tension of the whole area drained by the threads. The arm in consequence, instead of being hard and brawny, becomes abnormally soft and flabby. This may sometimes occur even though postural treatment is neglected, and in the absence of any marked diminution of the diameters of the arm. (c) There is rapid subsidence of the swelling, commencing immediately in the hand, and extending to the forearm within 24 hours. At first the upper arm is unaffected, or its diameters may even slightly increase. But within a week or two the diameters of the upper arm are also markedly lessened. The subsidence is usually permanent, unless and until pleural effusion supervenes to interfere with drainage. These defects are at first dependent on the adoption of proper postural after-treatment, but after a few months elevation of the arm may be abandoned without any marked increase of swelling. (d) There is return of power to the paralyzed arm if the paralysis is of recent date. If the paralysis is of more than a few months'

standing, no return of power is to be expected. (e) There is an improvement in the general condition, dependent partly on relief from pain and its associated symptoms of insomnia and depression, and partly on the abandonment of sedatives.

Localization of Cerebral Function.—

Bolton (*London Lancet*) as a summary of the results of his micrometric studies says that the human cerebral cortex originally evolved from three primary cell laminae, an inner or polymorphic, which is concerned with the performance of organic and non-voluntary activities; a middle or granule, which is receptive in function; and an outer or pyramidal, which serves as the physical basis of the associative functions of the cerebrum. The last of these is the distinctive feature of the cortex peculiar to the mammalia or to the neopallium. These three laminae appear during normal development in the order named, from within outward. The cortex of the visuo-sensory area is evolved before that of the visuo-psychic zone, and this before that of the prefrontal region.

In cases of mental disease grading from idiots and imbeciles through various types of non-demented and partially demented lunatics to the gross dement, marked differences in the degree of evolution and dissolution of the cortex exist, which, considered from the general aspect, follow the order of normal development. In amentia the condition is one of subevolution to different degrees; and in dementia the laminae suffer in the reverse order to that of their evolution, the most affected being the latest developed, and the least affected being the earliest developed. The degree and type of these differences vary according to the region of the cortex, whether this be a projection area, a zone of special association, or the prefrontal region. In the case of the visuo-sensory area the prominent features are poor evolution of the pyramidal and polymorphic laminae, and specialization of the granule or receptive laminae. There also exist individual variations in the degree of evolution of the granule or receptive lamina, and in that of the pyramidal or associative lamina, which individual variations bear no relationship to the degrees of amentia or dementia which exist in individual cases. In the case of the visuo-psychic zone, the important feature, apart from an especially good evolution of the granule or receptive laminae, is a marked degree of individual variation with regard to the depth of the pyramidal or associative lamina. This individual variation, the author states, is not only independent of the existing grade of amentia or dementia,

but also of the individual variation in this lamina which occurs in the visuo-sensory area.

In the case of the prefrontal region, both specialization and individual variation are practically or entirely absent, and the cortex merely exhibits degrees of subevolution or dissolution which vary according to the grade of amentia or dementia which exists in the individual cases. That the condition is one of true subevolution is shown by the fact that the laminae are subevolved in the order of their normal development, the last to appear being the least developed and the first the most developed. The reverse order holds with regard to dissolution, the last lamina to appear during normal development being the first to undergo retrogression in dementia, and the first the last to retrogress. In the case of the cortex of the prefrontal region, therefore, the associative function of the pyramidal lamina may be regarded as "voluntary associative," in view of the fact that the essential feature of amentia and dementia is decrease, instability or loss of voluntary control over the process or cerebral association.

Artificial Decline in Birth Rate.—*Premantle* (*The London Medical Lancet*) says, that any decline that there may be in natural fertility is insignificant as compared with the artificial decline. The evidence is overwhelming, to quote again from the New South Wales report, as to "the marked effect of a force adverse to reproduction; and this force was one over which the individuals themselves have control." It is a voluntary limitation of the birth rate with which we have in the main to deal. There are two methods: prevention of conception and destruction of foetal life; rubber goods and chemical pessaries on the one hand, abortifacients and spurious nursing homes on the other. Both methods flourish; both should be relentlessly pursued and checked by the law. It is significant that it was in 1876 that the Bristol publisher of an American pamphlet describing these methods under the title "*Fruits of Philosophy*" was sentenced, and Charles Bradlaugh and Mrs. Besant aggressively republished and circulated the pamphlet; and that in 1877 began the decline of the British birth rate which has continued since.

The chief factors, then, in the decline of the birth rate are mechanical and logical. The mechanical factors just named are in reality only methods. It is the following logical factors that are the ultimate cause:

A. In the interest of health wives are advised to secure a two or three years' interval after the first and each subsequent birth;

and after any severe confinement to avoid similar danger in the future. It is often this well-meant interval after the first birth that effects the mischief.

B. With the higher education of women comes an increasing habit on their part, both before and after marriage, of undertaking charitable, political or other occupations, paid or unpaid, which it seems difficult, even selfish, and at least unreasonable for the young wife to abandon. Often in her desire to help her husband, intellectually and socially, it seems to her a duty to direct her seasons of child-bearing accordingly; and this well-meant interference has unforeseen results.

C. The desire for economy strikes at all parents in every class, and especially in that class—the wealthiest—which has the largest experience of converting money into power and opportunity of every kind. Such power and opportunity will perhaps be lost through another child, whereas they may otherwise be used for the education or physical welfare of the children already born or for their "start in life" on completion of their education; or they may be required for the serious aims and life's work of the husband; or for the competition to keep or improve the position and authority of the family in the class of society to which it belongs or wishes to belong. Lastly, and no doubt only in a minority of cases, the primary object is that of leisure, comfort and the avoidance of pain.

This desire, whether for economy or comfort, depends essentially upon the unfettered Darwinian principles of the struggle for survival of the fittest; it is a recrudescence of Nature's method for natural selection, rendered possible by the free interchange of information, as a result of the steam engine, electricity, cheap printing and the penny post; fostered by the time-honored liberal principles of *laissez-faire* without the correcting factors of sound scientific knowledge and rigid moral discipline. Free play of natural forces, as developed by the inventions of the nineteenth century, has led by inevitable if superficial logic to the decline of the birth rate. Sound scientific knowledge of itself only directs into certain grooves and does not check this decline. Rigid moral discipline is hardly possible, except as a part of a religious code; while scientific thought and the liberal tendencies of the last century have unhappily done much to destroy discipline and undermine religious authority. On the other hand, there must be noted the newer growth of athletic discipline, the cult of a healthy body, which, combined with the sounder scientific knowledge of the last few years and saner views of moral and religious disci-

pline, may lead the civilized world to recognize and check the material dangers that accompany the abuse of Nature in her most vital and essential activities.

What, then, are the effects on the potential parent of this voluntary prevention of conception and this practice of abortion? The direct physical effects are considerable. In his presidential address to the British Gynecological Society in 1904 the late Professor J. W. Taylor spoke of both sudden danger and of chronic disease, especially chronic nervous disorders, as common results. In commenting in his annual report on the prosecution of a woman abortionist for manslaughter at the Nottingham Assizes in 1906, Dr. P. Boobyer, the medical officer of health, described the effect of diachylon or lead oleate plaster, much used for this purpose in the Midlands, as often producing abortion, but always lead poisoning, leading in a large proportion of cases to paralysis, blindness, insanity, and even death. It is noted again that ovarian and uterine tumors, innocent and malignant, coincide largely with the practice of restriction. Above all, it is a commonplace in gynecological practice that when a woman who has practiced restriction wishes to have a child she is frequently unable to conceive, at least for some months or even years.

The direct and moral effects are even more serious. The practice of prevention is a check on nature's check to sexual intercourse; it tends unconsciously to sexual excess and habituates the being to general self-indulgence. Parental qualities are not stimulated and the children lose the discipline and delights of a full nursery. Wives, being thus set more free of home ties, take up other occupations, and, indeed, in the struggling classes, are in increasing extent chosen according to their wage-earning capacity. Woman is thus pushed out from her natural sphere of home-life into the outside world; and man takes the advantage of it. Hence the decay of home-life, the decline of chivalry, the claim for female suffrage.

Venous Murmurs in Children.—Coombs (British Journal of Children's Diseases) says that he has investigated the venous hum in children described by Eustace Smith as a sign of tuberculosis of the mediastinal lymph glands. One hundred connective cases were studied, ranging from one to fifteen years of age. Out of this number, 51 exhibited the murmur. The murmur occurred twenty-six times in 42 boys, and twenty-five times in 58 girls; 50 per cent. of the murmurs were found in children under two years, 58 per cent. from two to five years, 76.6 per cent.

from six to ten years, and 50 per cent. from eleven to fifteen years. Excepting in a few cases of anemia it is unusual to find this murmur in persons over sixteen years old. The murmur is heard at and just below the sternoclavicular articulations. The following facts were demonstrated: If bilateral, the murmur is louder on the right side. If unilateral, it is more often on the right side. With the head thrown back the murmur becomes more audible and lateral rotation has the same effect. The murmur usually disappears in the recumbent position. It is usually louder during inspiration, and louder during cardiac diastole more often than during systole, but it is accentuated at the beginning of each phase. It is low pitched, usually, and reminiscent of the chlorotic "bruit de diable." The murmur is not especially associated with tuberculous adenitis within the thorax, as shown by its presence fifty-one times in 100 non-tuberculous children, its presence in many children who have never been ill, and its absence in a number of cases with intrathoracic tuberculous glands. It cannot be regarded as a sign of any gross organic change. Probably in some cases of fever and anemia the murmur may appear as do bruits at the cardiac base. The murmur is certainly venous and is heard over the internal jugular veins in the neck and over the innominate veins beneath the manubrium. It is produced in the internal jugular vein, but the mechanism is not clear. Although associated with anemias and febrile states, it is heard also in perfectly healthy children. It is not associated with tuberculosis, and is of no diagnostic value.

Radiotherapy in Gynecology.—Jaugeas (La Gynecologie) says that the ovaries as well as the thyroid and hypophysis are directly influenced by radiotherapy. This form of treatment is especially adaptable to myomata. Its use depends on the clinically established relation between the ovaries and the development of uterine myomata and on the clinical and experimental results of the action of the X-rays on the ovary. Experiments in animals have shown that exposure of the ovaries to the X-rays is followed by a degeneration of the follicle epithelium, death of the ova, sclerosis of blood vessels, leading to total disappearance of all follicles. Observations in women have shown that a similar degeneration of follicle epithelium occurs, many follicles being entirely replaced by hyaline tissue. Also small capillary hemorrhages are found in the cortex which might account for some destruction of tissue. But little is definitely known of the action of X-rays on myomata; in tumors with young cells and active

karyokinesis the growth may be inhibited as in other neoplasms. Nuclear degeneration, cellular destruction and fine hemorrhages have been observed in myomata after treatment with the X-rays. There are some cases in which radiotherapy has no effect in lessening the hemorrhages, which is an indication for the cessation of treatment. X-rays and surgical treatment should not oppose each other, since each has its indication. In cases of small myomata scattered through the uterine wall, fibrous degeneration of the uterus and of sclerotic uteri in which hemorrhage is the dominant symptom, radiotherapy is indicated; in large myomata of recent growth it may be justified if no symptoms of compression, etc., demand immediate relief, since the treatment must extend over months. Old, slowly growing tumors are, as a rule, little affected by radiotherapy, and generally require surgical treatment. Results are usually obtained more quickly in women near the menopause than in those younger.

Salvarsan in Obstetrics.—Lemeland (L'Obstet.) presents a study of the cases in which salvarsan has been used in syphilis during pregnancy. The reported cases up to date number thirty-nine. After a general review of the method of administration and action of salvarsan, the author states that in heredo-syphilis its action is exactly the same as in the acquired disease. Of the cases reported seven were reported early in the use of this drug and were not carefully studied with reference to the effect on pregnancy. Of these seven cases, in five the fetus was not injured by the drug. In one case the movements of the fetus were less after the injection; in one it died soon after the injection. In one case there was metorrhagia. In the second group of the thirty-two cases, the records of which were carefully studied, it is evident that the pregnant woman bears the injections well, and that it is not dangerous to the fetus. The action on the syphilitic lesions is as intense in the pregnant women as in other cases. The effect on the Wasserman reaction is the same as in non-pregnant women. The elimination of the arsenic is as rapid as in other cases. There were no cases of marked intoxication of the fetus reported. There were thirty living and two dead infants. Salvarsan did not produce abortion in any of these cases. In the direct treatment of infants with salvarsan single large injections and repeated small ones were used. The clinical results were excellent in the cases published. The reaction of Wassermann disappears much more slowly than in the adult. Out of sixty-six cases treated

in infants there were twenty-one deaths and forty-five cures. The treatment was given in eighteen cases to the mother who was nursing the infant. The results are discordant; success in some cases, failures in others were noted. The arsenic could not pass to the infant through the milk; but the effect produced would be by means of anti-toxins developed in the blood of the mother and passing to the infant in the milk.

The Appendix in Gynecology.—Legnen (La Gyn.) reviews the position of the appendix in various gynecological troubles. With some surgeons it is a rule in all gynecological operations to remove the appendix whether diseased or not. This is the practice of the author. In many of these cases there has never been an appendicial crisis. In thirty-two cases of appendix removed in the course of various operations a microscopic examination was made. The histories of these cases and their findings are detailed. The cases of adnexitis show that in a large proportion of them there were lesions of the appendix as well. Even when the appendix was distant from the tube it was found to be altered, showing that the inflammation had been propagated to the appendix by peritoneal or subserous paths. These lesions were such as to demand the removal of the appendices. Removal of the appendix is the necessary complement of salpingectomy or hysterectomy for catarrhal or suppurative salpingitis. In the absence of lesions of the adnexa the appendix is less likely to be involved, but even in these cases the author thinks it better to remove the appendix. In every case of laparotomy for gynecological disease the appendix should be removed as a routine procedure.

The Pancreas Therapy of Diabetes.—Leschke (Muench. med. Woch.) after many experiments offers the following conclusions:

Fresh pancreas extract increases the excretion of sugar in diabetic animals and man and also exerts a glycosuric, toxic and even a lethal action upon normal animals. Inactivated pancreas extract does not manifest this action, and partly inactivated extract only a weakened effect.

The pancreas therapy of diabetes is thus deprived of any experimental basis. Injection of pancreas substances increases the excretion of sugar and causes abscesses and general disturbances. Administration per os also increases the excretion of sugar.

The basis of pancreas therapy—the theory of internal secretion of the pancreas—is thus far an unproved hypothesis. The absence of pancreas diabetes in spite of total destruction of the pancreas and its occur-

rence in spite of complete preservation of this gland, render it probable that carbohydrate metabolism is regulated, not by a nervous mechanism.

Nursing by Puerperal Women.—Franz (Berl. klin. Woch.) says that there is no such thing as a physiological inability of a healthy mother, to nurse her child. The writer says that it lies with the general practitioner to bring about such a state of mind in his patients that they shall wish to nurse their children. Formerly the Dr. believed that some women could not nurse their children, but he has changed his position with experience, and by judicious advice he has been able to induce all the women in his hospital service to perform this duty. The writer's method of treatment of all lying-in women is given. He says that the child should be placed at the breast within twenty hours after delivery, since its attempts at nursing hasten the appearance of milk in the breasts. The child is placed at one breast at a time for twenty minutes. The child is nursed five times daily. From 10 p. m. to 6 a. m. the mother has rest. No drawing out or manipulation of the nipples during pregnancy is necessary, and no applications are made, nor is the child's mouth washed out before nursing. A clean garment covering the nipple is sufficient protection. At each nursing the breast should be emptied; milk left in the breast will harden and give trouble. The women get up on the fifth day and this helps appetite and general condition, which increases the supply of milk. We cannot expect good milk if we give the mother a low diet. He allows his patients to eat anything they desire from the first day after labor. Puerperal infection, cancer, and pulmonary tuberculosis contraindicate suckling.

Quieting of Pain in Labor.—Strassmann (Berl. klin. Woch.) considers the various means that have been used to allay the pains of labor, and their merits. The writer thinks that there can be no doubt that when pain is severe, labor is delayed by the refusal of the patient to bear down and the holding of her breath, and lack of force when she cries aloud. Therefore labor is hastened and facilitated by relieving the pain. Some labors are painless; these are not always fortunate for the mother on account of tearing of the perineum, or for the child who may be injured by the cord becoming caught about its neck; on the other hand they spare the mother loss of blood, and fever is seldom seen, very few examinations being made during labor. Confinements of women who have lesions of the spinal cord, tabes, myelitis and syringo-

myelia, are painless. In placenta previa and edema of the labia pain is slight. The longer delivery is delayed after the rupture of the membranes the greater the danger to the child. The oldest means of lessening pain is by the use of chloroform. If this drug is given too early in labor, a lessening of the severity of the contractions accompanies the lessening of pain and labor is delayed. The place of chloroform is, in the second stage of labor only, at the moment of delivery. Chloroform may also properly be used in cases in which operative delivery is necessary. In some cases an injection or an inhalation of some harmless drug, such as alcohol, is as effective as chloroform. Lumbar anesthesia is rejected by the author on account of the paralysis of the legs which ensues and lessens the effects of the patient during delivery. Lumbar anesthesia is valuable in gynecological operations, but is not indicated in labor. Sacral anesthesia may be produced by a solution of novocain, suprarenin, and physiological salt solution, injected into the sacral canal, and infiltrating the nerve fibers at the lower part of the spinal cord. This method of inducing anesthesia delays labor, and is contraindicated. Painting cocaine in the nose may produce a psychical anesthesia, a suggestion narcosis. This may also be obtained by the use of a few drops of chloroform. Morphine lessens pain, but also delays labor, stilling the contractions. Chloral hydrate influences the strength of the contractions less than any of the other narcotics. After its use in worn-out women, followed by a quiet sleep the contractions return with renewed vigor. Scopolamin morphine is useful in gynecology to lessen the fear of pain and anxiety about the operation. It has also been used in labor, but the children are not as lively as normally, and do not breathe and cry as well. The author has used this method in two series of cases. The pain is less but the number of operations needed is increased with this method. Contraindications are weak pains, heart disease, fever, etc. Lactation is not influenced.

Bacteriology and Local Treatment of Abortion with Fever.—Traugott (Zeit. f. Geb. u. Gyn.) says that every case of hemorrhage with septic abortion should be treated intrauterinely; but he questions what is the best method of treatment. The writer divides the cases of abortion into those infected by what he calls obligatory saprophytes, which cause a bacteriotoxic endometritis, and which should be curetted, and those not so produced. The germs that cause this kind of endometritis are the colon and paracolon bacilli, staphylococcus albus

and aureus, tetragenus, sarcina, pyocyanus, proteus, pseudodiphtheria, and other gram-positive organisms. These produce toxins which are absorbed from the placental remains, and the fever, chills, and other symptoms produced by these are all stopped by the removal from the uterus of the decaying debris contained therein. These cases are to be aseptically treated with a swab to obtain a specimen, and after bacteriological examination, if the germs mentioned are found, the author, with aseptic hands, removes manually the contained debris. The Dr. finds that in these cases all symptoms cease as soon as the septic debris is removed, and without exception the patients recover. The author found his conclusions on the treatment of 147 puerperal cases. Of eighty-nine women having fever after abortion, seventy-nine had the abortion in the first half of the pregnancy; of these, thirteen died of puerperal infection. There is very little difference in mortality between abortions and puerperal cases when infected. The saprophytic germs which are found in dead tissues in the uterus never wander into the living tissues. The severity of the symptoms depends upon the number of germs that produce the toxins and the amount of toxin produced, and they act as long as the infected remains of the placenta and membranes are in the uterus. These germs may be pressed by manipulations or by the contractions of the uterus into the open vessels, but they soon disappear from the blood without metastases. The necessity for removal of the uterus contents depends upon the kind of bacteria that are present in the uterine cavity. Twenty-four hours are required to decide whether to remove the uterine contents immediately or not. The finding of an absolutely pure culture of streptococci, whether hemolytic or not, is an absolute contraindication for operative interference until after the formation of autoimmunizing substances in the blood. Interference will spread the germs into the blood and tissues in such cases. The author tabulates his cases so as to show the kind of infections present and the uniformly good results of the treatment. The writer never uses instruments for the removal of the tissues, but uses his fingers properly aseptically.

Treatment of Congenital Syphilis with

Arsenobenzol.—Marshall (British Journal Children's Diseases) says that there is no proof that an abortive cure of syphilis, or therapia sterilisans magna, can be affected by "606" or any other drug. There is no evidence that tertiary or parasyphilitic manifestations can be prevented by arsenobenzol;

in fact, it would take many years to prove this. Arsenobenzol certainly has a rapid healing effect on certain syphilitic lesions, chiefly of the ulcerative type, but this effect is not constant and is often only temporary. If arsenobenzol is indicated at all, it is chiefly in those cases which are not influenced by mercury; but such cases are rare. Moreover, there are cases which resist both drugs. Arsenobenzol has numerous contraindications. It appears to have little or no effect on visceral syphilis and parasyphilitic affections. The injection, especially the intravenous injection, of this drug is attended with grave risks to the patient. In the present state of our knowledge there is no drug which can replace mercury in the treatment of syphilis. He gives the opinion that, even if there were no dangers connected with the administration of arsenobenzol, there would be no justification for its employment in congenital syphilis, and that the dangers not all of which are probably yet known, render its employment absolutely contraindicated. The writer even predicts that if the "treatment" of syphilis (congenital or acquired) with this drug ever becomes general, and replaces mercurial treatment, there will be an increase both in the amount and in the severity of tertiary manifestations, and a rise instead of a fall in infant mortality.

Retraction Ring as a Cause of Obstruction in Labor.—Jardine (Jour. Obst. Gyn. Brit. Emp.) says that in ordinary cases of obstructed labor the retraction ring is not the primary cause of the obstruction, but rather the result. Occasionally, however, cases occur in which the ring is the cause of obstruction. In some cases the ring forms in front of the presenting part, while in others, it is behind the presenting part, which may be either the head or the breech. The Dr. has seen two cases of the former type. In these cases there is no apparent obstruction from a contracted pelvis, tumor or abnormal presentation. Yet labor is delayed although uterine contractions are strong and frequent. The presenting part is palpable above the pelvic brim but the retraction ring may not be felt through the abdominal wall. The os is dilated and the lower uterine segment open, but some three inches or so above the os, there is a distinct ledge running round a portion or the whole of the uterine cavity in front of the presenting part. During a pain, this ledge does not relax, but contracts, and prevents any advance of the presenting part. The membranes may or may not be ruptured. If they are intact, they protrude into the vagina, and may even be seen at the vulva. In the two cases morphine did not relax the

ring, so Cesarean section was performed. When the ring is above the presenting part, in the majority of the cases, there will be another obstruction, such as a contracted pelvis, a tumor, or a transverse presentation. These cases should be dealt with according to the rules laid down for the treatment of such obstructions. Occasionally, cases are met with, where the ring is the only obstructing factor, although the presentation is a longitudinal one. The writer has seen five cases of head presentation with the ring formed around the neck. In these cases, as a rule, the membranes rupture early and the liquor amnii drains away before uterine contractions come on. The ring may be palpated through the abdominal wall unless the patient is very stout. The head has no obstruction in front of it, but does not come down into the brim of the pelvis. By vaginal examination a very distinct ledge is felt below the shoulders. Under full doses of an opiate the forceps should be applied. If it slips or delivery is not accomplished, Cesarean section is indicated if the child is alive; if dead, craniotomy followed by division of the clavicles if necessary, or even breaking up of the body. In impacted breech cases with the legs extended the true cause of the impaction is the retraction ring gripping the child, so that its feet are hitched above the ring. The ring can be recognized by an internal examination before it can be palpated through the abdomen. Traction upon the breech is of little use. The best method of treatment is to anesthetize the patient deeply, and pass the flattened out hand up along the front of the child until a foot is reached, and then to sweep it inward over the front of the child, and bring it down. When the leg is brought down, traction should be made upon it, while an assistant keeps up firm pressure upon the fundus of the uterus to prevent the arms going up, and to keep the head well flexed. If the arms go up, they must be brought down in the usual way, by sweeping them over the front of the child. The after-coming head must be dealt with in the usual way.

Splenomegaly of Inherited Syphilis in Children.—Weber (Brit. Jour. Child. Dis.) says that moderate splenomegaly in children about the ages of five to sixteen years may be almost the only evidence of an inherited syphilitic taint, in such cases Wassermann's sero-reaction for syphilis would doubtless generally give a positive result. Other evidence of inherited syphilis is occasionally forthcoming; the teeth may be more or less of the "Hutchinsonian type," there may be interstitial keratitis, persistent cracks at the corners of the mouth,

a history of skin eruption in babyhood, a history of syphilis in the parents, or of inherited syphilis in brothers and sisters. The splenomegaly of inherited syphilis is often accompanied by occasional (usually only slight) attacks of obstructive jaundice and by excess of urobilin (and urobilinogen) in the urine. Hepatic cirrhosis, with or without ascites, may be associated with the splenomegaly and at the time of death the hepatic cirrhosis in such cases is probably usually of the ordinary multilobular "hob-nail" type. Though it seems doubtful that the cirrhosis of the liver in these cases is of specific syphilitic origin, it is quite possible that the presence of an inherited syphilitic taint may diminish the resistance of the liver toward the action of toxins, including alcohol, and render it specially liable to cirrhosis. The inherited syphilis in these cases may be, but often is not, associated with some degree of "infantilism," i. e., more or less retardation in general physical development and especially in the sexual functions. In these cases great caution must be employed with regard to anti-syphilitic, especially mercurial, treatment, probably on account of the general delicacy of the patients and their liability to renal and catarrhal complications. Iodide of iron seems to be useful. In these cases there is generally very little real anemia, even when the general appearance of the patient is cachectic; and anemia, if present, is often only temporary. In some cases, on the contrary, there may be a certain amount of polycythemia, probably of reactive nature, sometimes sufficient to constitute a symptom-complex, which might be termed "splenomegalic polycythemia of inherited syphilis in children." Other unknown conditions may cause splenomegaly and recurrent jaundice in children, similar to that met with in cases of inherited syphilis. "Abdominal crises" of uncertain explanation may occur occasionally both in the inherited syphilitic and in the other cases. Cases of "familial" splenomegaly occurring in two or more brothers or sisters may occasionally be connected with an inherited syphilitic taint, but familial splenomegaly in children is better recognized in connection with congenital chronic acholuric jaundice, and with primary splenomegaly of the "Gaucher type." Splenomegaly in children may be the most important sign of the presence of hepatic cirrhosis, when the former is either secondary to, or due to the same causes as the latter. Some casts of splenomegaly in children with inherited syphilis probably ultimately present the characteristic clinical features of splenic anemia or Banti's disease.

Musculature of the Ligaments of the Uterus and the Arrangements of the Muscular Fibers in the Uterus.—Ivanoff (Ann. de Gyn. et d'obst.) has carefully examined macerated specimens of the musculature of the uterus and sections made through its entire thickness in an effort to arrive at a definite understanding of the arrangement of these fibers. The Dr. has arrived at results that he believes will be of importance in the management of labor. The writer finds that the round ligament is really a muscular layer having the form of a band extending between the inguinal canal and the uterus; this band is rolled upon itself at the inguinal canal, giving it the form of a ligament. On reaching the uterus this band becomes unrolled and most of its fibers pass into the anterior wall of the uterus to envelop the entire front part of the body of that organ and form the superficial muscular layer of the anterior surface. The rest of the fibers go to reinforce the posterior wall on its superficial surface. We should not call this a ligament, but a utero-inguinal muscular layer. The fibers which pass superficially around the body of the uterus, meeting those of the opposite side, interdigitate and form the median layer of the walls, which is always thick on the anterior wall of the uterus. The muscular layers coming from the median layer form very thin bundles, passing from side to side of the organ and concealing themselves behind each other. The other fibers of the superficial layer all have the same direction, toward the depth of the organ. Most of the fibers of the vascular layer of the uterus seem to be continuous with those of the superficial layer. There is a tendency for the fibers to detach themselves and pass into the deeper layers. The superficial fibers of the posterior layers also detach themselves and pass deep into the walls, into the vascular layer. The utero-ovarian ligament contains few muscular fibers. The muscular system of the cervix may be divided into two parts according to the origin of the bundles; the greater part are continuations of the anterior and posterior bundles of the walls of the fundus, with which they are directly continuous both in the vascular and superficial layers; the smaller portion begins low down in the cervix. Most of the fibers run the length of the cervix from above downward; they then curve one by one toward the canal perpendicular to the mucosa. Thus, most of the fibers of the cervix are directly continuous with those of the body. The second part, occupying the posterior portion of the cervix, are completely independent; they are a prolongation of the great muscular layer of the fundus. They cover the posterior vaginal

culdesac and then enter the posterior wall of the cervix, do not anastomose with the other fibers, and terminate in the superficial muscular layer of the posterior wall of the uterus. The branches of the uterine artery before entering the wall are enveloped by the muscular fibers. The sacrouterine ligament is a portion of the muscular fibers of the retrouterine pelvic layer. We must modify our ideas with reference to many physiological and pathological phenomena. It is easy to palpate after labor the great bundles of the anterior wall of the uterus. The better the uterine contraction the better they can be felt. At times the lower border of the round ligament may also be felt. During gestation and in labor the round ligament becomes shortened. The distance between the internal orifice of the inguinal canal and the lateral face of the uterus is diminished. This results from the increase of size of the uterus under the superficial layer. The upper border of the round ligament directs itself upward toward the fundus, the lower part is directed toward the lower part of the uterus, thus most of the uterus is covered with a thick superficial layer, remarkable for the serration of its fibers. Only the lower portion is thinner, becoming thinned during labor. Since the majority of the muscular fibers come from the upper part of the uterus, all of the fibers being reflected toward the mucosa, these fibers draw upon the mucous membrane each from its own direction and open the cervix. The submucous layer is so thin that it cannot resist the pulling action of these fibers. The uterus should not be divided into two parts in our conceptions, an active part susceptible of contraction and a passive lower part susceptible of dilatation. All parts of the uterus are active in labor. The cervix should take a very active part in dilatation. The lateral peripheral layer by its contraction narrows the uterine cavity in a perpendicular direction on its axis, and since most of the longest fibers are at the isthmus, this group of fibers should act strongly on the lower segment. Thus the contraction ring is formed.

A New Treatment for Venereal Papillomata.—Wroughton (Journal of the Royal Army Medical Corps) reports a case in which the whole of the mucous membrane of the foreskin was covered with papillomata so closely packed that they fitted into one another like a mosaic; they overflowed on to the skin of the penis and also on to the glans. Below the corona glandis, extending downwards three-quarters of an inch, was a thick collar of sessile warty growth which exuded the most offensive secretion. The papillomata varied in size from that of

a large pea to that of a millet seed, and projected from the surface of the organ three-quarters of an inch. The end of the penis resembled in appearance and size a small cauliflower. At first local treatment by means of astringents and antiseptics was tried, but so little headway was made that it was decided to use the x rays; the first exposure was for eight minutes, and the second, five days later, for ten minutes. The third exposure, again five days after the previous one, was for 18 minutes, and after this the patient was given an exposure of 15 minutes every four days until he had had seven; after a week's interval the eighth and last exposure, also of 15 minutes duration, was given. The following changes were noticed after the third exposure—the offensive secretion had quite ceased, and some of the large warts were getting hard and dry. After the fourth, most of the growths began to shrivel. After the fifth, several growths fell off, leaving quite a healthy surface beneath, and the sessile growth was shrivelling. After the sixth, half the growths had disappeared. After the seventh, there were only three small papillomata left, at the frænum. After the eighth, and last, these three remaining growths dropped off, leaving the organ absolutely free and with not even a trace of papillomata.

Arthritis Deformans Juvenilis.—Perthes (Deut. Ztschr. f. Chir.) says that this condition is much more frequent than was previously thought. This is due to the fact that the symptoms frequently resemble those of coxitis. It is often confounded with this disease. The most striking symptom, the limitation of mobility, however, is not due to reflex muscular tension or to adhesions as in coxitis, but to the mechanical conditions in the joint from the change of the femoral head. Abduction seems to be chiefly impaired, while flexion may be preserved. Pain is absent or occurs only after prolonged walking, and crepitation is rarely present. The limping gait, which is another characteristic sign, is due rather to insufficiency of the abductors than to shortening. X ray examination shows slight shortening of the femoral neck even during the early stages. Although the disease is ordinarily progressive, much can be accomplished by conservative treatment, particularly passive movements, either manual or with the aid of mechanical apparatus, the main object being to reduce the limitation of movement to the smallest degree.

Primary Suppurative Parotitis of Early Infancy.—Bretschneider (Archiv. für Kinderhk.) reports two fatal cases. In one case nine weeks old, infection of the other paro-

tid followed fourteen days after the first. Death resulted from accumulation of pus in the mediastinum and right pleura. The staphylococcus was the infecting germ. The second, five weeks old, was probably suffering from hereditary lues. Death was due to aspiration pneumonia. Staphylococci were found in the pus. He found 11 cases in the literature, excluding the two of his own, reported mostly by French clinicians. In most of the cases the disease begins in the first few days or weeks of life. The fever is usually high. In 31 per cent. of the cases the birth was premature. Two infants had congenital lues. There is a swelling in the parotid region which is tender, and at first not sharply circumscribed, later it becomes localized below and in front of the ear. The pathognomonic sign is escape of pus from Stenson's duct on pressure over the tumor. The gland breaks down and suppurates. The mortality was 69 per cent., but this may be due to the fact that only the severest cases have been recorded in the literature. Death is due to the disease itself or to complications. The complications are due either to direct infection or to metastases. The pus may rupture into the external auditory canal, or it may descend into the mediastinum, as was the case with one of the author's patients. The duration of the disease varied from one day to three and one-half weeks. He thinks that, as a rule, the disease is due to an ascending infection along Stenson's duct. In these cases there may be a congenital dilatation of Stenson's duct, or insufficient secretion of saliva by the parotid gland. In some cases the infection may be hematogenous in origin. When fluctuation is present, active surgical treatment must be adopted. Breast feeding is essential.

The Use of Salvarsan in the Treatment of Malignant Tumors.—Czerny and Cann (Munch. Med. Wochenschr.) have employed salvarsan in twelve cases of malignant disease, comprising seven of carcinoma, two of sarcoma, and three of Hodgkin's disease. The Wassermann reaction was positive in all, with the exception of one case of cancer and one of Hodgkin's disease. In the cases of cancer the stomach and intestinal tract were involved in two, the tongue in three, and the lip and floor of the mouth in one each. The neutral emulsion of salvarsan recommended by Michaelis and Wechelsmann was used, which was usually injected into the gluteal region, but sometimes into the tumor. From their experience the authors draw the following conclusions: (1) In inoperable malignant tumors with a positive Wassermann reaction, and particularly in sarcomata, a trial

of salvarsan is indicated. Its use is justified in view of its favorable influence upon these tumors, as shown by their tendency to become liquefied and undergo necrosis, and also by the fact that arsenic is one of the oldest and in many ways the most efficient medicament recommended for the treatment of malignant disease. (2) Operable tumors are to be surgically removed under all circumstances, but it is questionable, particularly in sarcomata with positive Wassermann reaction, whether an attempt with salvarsan is not warranted. (3) Salvarsan treatment of malignant tumors should be resorted to only in hospital practice, owing to the occasional intense reaction. Cachectic and debilitated patients should be excluded from the treatment. (4) The customary dose of salvarsan of 0.4 to 0.6 gm. is too small for cases of malignant growths, and, depending upon their extent, several injections of such doses should be made. (5) A combination of direct injection of salvarsan into the tumor, with its administration at some other point of selection, perhaps intravenously, appears particularly effective, although the dose to be employed has not yet been definitely established.

Rectal Drainage of Appendicular Pelvic Abscesses.—Chifolian (Progres Med.) says that collections of pus in Douglas's pouch occurring in appendicitis are not of rare occurrence. Unless these cases are operated upon early the pus accumulation may extend upward even as far as the hypogastrium. The diagnosis of such an appendicular abscess can be established only by repeated rectal examination, as the other symptoms are not characteristic. The tendency of the abscess is to become encapsulated, and if operation be undertaken at the end of the acute stage it may be very dangerous unless the local condition be determined by rectal palpation. If induration is found in Douglas's pouch, active measures should be deferred, because too early intervention may render it impossible to completely remove the appendix. If, however, the inflammation becomes intensified through some error in diet and the abscess extends upward, urgent intervention is called for. In cases where the abscess points toward the rectum it should be opened at this place, since any danger of hemorrhage, or injury of the prostate or of a coil of intestine is unfounded, as is also the risk of infection. After incision and drainage the suppuration rapidly ceases. Tuberculous effusions into the pelvis can also be drained by rectal incision. After opening the abscess a good-sized drainage tube should be introduced and the cavity irri-

gated for a number of days with boiled water or hydrogen peroxide. The drain is removed on the fourth day, and after eight days the patient is allowed to leave the bed. This is followed in one or two months by removal of the appendix.

Treatment of Severe Gastric Hemorrhage.—Kraft (Archiv. f. klin. Chir.) states that the chief reason for the infrequency of operative intervention in these cases is that the results thus far reported have not been encouraging. In a few cases it has been possible to arrest the hemorrhage by ligation of a bleeding vessel or cauterization of an oozing ulcer, but as the ulcer is often deeply seated it may not be possible to ligate, or the bleeding vessel may not be found. Occasionally the ulcer itself escapes detection. Other operative measures, such as gastroenterostomy, do not always give immediate results. On the other hand, Rovsing's method, which the author has employed since two years, has proved very serviceable. It consists in the introduction of a diaphanoscope, an especially devised instrument, through an incision in the stomach, thus permitting of direct inspection of its walls. This method permits of the detection of very small ulcerations, no larger than a pea, while any bleeding vessel can usually be seen. The hemorrhage is arrested by applying a ligature, taking in the entire thickness of the stomach wall, and this area buried by one or two purse string sutures. After removal of the diaphanoscope the gastric wound is sutured. In four of five cases of severe hemorrhage this procedure caused arrest of the bleeding.

Miscellaneous.

Chronic Nasal Catarrh.

Case I.—A man, 34 years of age, had suffered for years, especially in cold or damp weather, from difficulty of breathing, accompanied by a thin discharge from the nose. At night he was obliged to sleep with his mouth open. He was prone to attacks of follicular tonsillitis. This man was appreciably benefitted by a course of arsenic internally and the persistent local use of Glyco-Thymoline. In the course of a few weeks the situation was entirely changed. A sense of obstruction was then seldom present. The discharge had disappeared. He is now almost free from his old symptoms. Whenever there is any threatened recurrence he has immediate recourse to his bottle of Glyco-Thymoline.

Case II.—A woman, age 22 years, had suffered for years from an aggravated case

of hypertrophic rhinitis. Obstruction was marked, discharge was constant. At night she constantly breathed through her mouth. She was subject to sore throats and attacks of bronchitis. This patient was directed to take hypophosphites, malt and cod-liver oil, as she was of a distinctively strumous diathesis. Withal, however, she was possessed of considerable muscular strength and aided by the local action of Glyco-Thymoline made a very satisfactory recovery.—Geo. A. Hewitt, M. D., Phila., Pa.

The Qualifications of an Insurance Examiner.

Lissau says that a new science of "insurance medicine" has developed during the last two or three decades; this branch of medicine will surely gain recognition at the universities and some day a chair of insurance medicine may be established. Meanwhile, the insurance examiner must be a self-taught man, so far as his specialty is concerned. He must, however, be well versed in general medicine and especially in the diagnosis of internal diseases. He must be quite a master of percussion and auscultation of the thorax, as he is frequently obliged to decide very weighty questions as to the state of the heart and lungs, without having more than a few minutes for examination. He must have a good grounding in nervous diseases and in dermatology, and also in gynecology. The knowledge of symptomatology of female diseases is of great importance as internal examinations cannot always be made. All this shows that a "general practitioner" and not the specialist is best suited for insurance examination.—Blatter für Vertrauensärzte der Lebensversicherung.

Two Unusual Deaths.

A policy holder, 23 years old, gave nothing in his history except nosebleed on one occasion; his physical condition was very good. Three years later he was brought to a hospital in a dying condition with symptoms of cerebral hemorrhage. Autopsy showed this hemorrhage, but no cause for it whatever, so far as internal organs were concerned. No history of accident, excess, or anything that could be brought in connection with the anatomical findings could be learned. Another policy holder died after an unusual accident. Some years ago he choked on a collar button which he held in the month; the button finally found its way into the right bronchus and led to almost complete hepatization of the right lung. Several years later the patient had a very severe coughing spell, coughed up the button as far as the larynx, whence it was

aspirated into the left bronchus, thus resulting in death from suffocation.—Blatter für Vertrauensärzte der Lebensversicherung.

Antityphoid Vaccination by Way of the Intestine.

Jules Courmount and A. Roehaix have been studying for three years the possibility of causing antityphoid vaccination through introduction of typhoid material into the intestines. They give their conclusions from this work as applied to animals and man. Vaccination by introduction of toxins into the intestines is possible, but the material cannot be introduced by the mouth. It must be injected into the large intestine assisted by the use of laudanum in the fluid. These injections are well borne; after a negative phase immunity is established in the goat, rabbit, and guinea pig. Immunity is also antitoxic; the agglutinating, bactericidal, and bacteriolytic properties appear in the serum of the subject vaccinated. Man bears the injections well, with no bad effects. Agglutinating, bacteriolytic, and bactericidal powers are developed in human serum, and immunization like that from the cutaneous method is probable. This method is absolutely harmless and should be tested.—*La Presse Medicale*.

Why Should the Results of Examination Not Be Told the Applicant?

Ernst Block says that in Germany the examiner is forbidden to tell results of examination to the applicant or to the agent; yet this injunction is not always followed. Some claim that the examiner is, in the first place, a physician, and should not fail to apprise the applicant, if he finds some disease. However, the mere refusal to accept the applicant for insurance serves as a warning to the applicant, and it is his business to communicate with his family physician in such a case. On the other hand, to tell the applicant that he is acceptable and then have him disappointed, if the insurance company refuses him, is to put his family physician in a bad situation, for he may have been asked to give his opinion of the applicant's health. Therefore, silence as to the results of the examination is the wisest course to pursue. This question had been much debated at the Conventions of German Physicians, in 1894 and 1895, and it was decided that secrecy is the proper course, except that the family physician of an applicant could be apprised in a professional way of any disease discovered by the examiner, which had apparently escaped the former physician's attention.—Blatter für Vertrauensärzte der Lebensversicherung.

Battle & Co., of St. Louis, have just issued No. 17 of their series of charts on dislocations. This series forms a most valuable and interesting addition to any physician's library. They will be sent free of charge on application, and back numbers will also be supplied. If you have missed any of these numbers, better write Battle & Co. for them before the supply is exhausted.

Pepsin is undoubtedly one of the most valuable digestive agents of our *Materia Medica*, provided a good article is used. "Robinson's Lime Juice and Pepsin" (see page xiv this number) we can recommend as possessing merit of high order.

The fact that the manufacturers of this palatable preparation use the purest and best Pepsin, and that every lot made by them is carefully tested before offering for sale, is a guarantee to the physician that he will certainly obtain the good results he expects from Pepsin.

American Electro-Therapeutic Association.

Held its twenty-first annual convention at Philadelphia, September 5-7, 1911, the president, Dr. Frederic de Kraft, New York, in the chair.

Addresses of welcome were delivered by Mr. Gleason, secretary to the mayor of Philadelphia, and by Dr. C. B. Longenecker, president of the Philadelphia County Medical Society. Dr. Charles R. Dickson, of Toronto, responded on behalf of the Association.

PRESIDENTIAL ASSOCIATION.

Dr. de Kraft took for the subject of his address "The Development of High Potential Currents as Applied to Medical Uses." He traced the development of this mode of treatment from ancient times down to the present.

REPORT ON DIRECT CONTINUOUS CURRENT.

Dr. G. B. Massey, of Philadelphia, read this report. The committee feels that too little attention is still bestowed in this country on medicamental ionization with low volt currents. It is possible that we fail to obtain the full results on account of defective technique. Too little skin surface is used for the diffusion of the ions through the skin. With the parts immersed in local baths, the electrodes will not irritate the skin unduly. Instead of the baths we may employ very large electrodes of several layers of absorbent cotton wetted with the solution, over which a bandage-like strip of tin-foil may be wound, to which a thin wire is attached by simply threading it to a corner and bending the corner on itself.

REPORT ON INDUCED CURRENTS, INCLUDING ALTERNATING AND HIGH FREQUENCY CURRENTS AND APPARATUS.

Dr. Frederick M. Law, of New York, made this report. In using the D'Arsonval current the amount of dielectric has a marked influence on the therapeutic effect, the greater the amount of the dielectric the more superficial the effect and the more influence felt on the sensory nerve endings. Eddy currents are generated within the body, which act as a gentle massage. A valuable use of this current is in intestinal auto-intoxication. The use of bi-polar D'Arsonval current may be fraught with danger unless carefully performed. Dosage should be governed by the effect on the patient. The construction of the resonator has a great bearing on the effect of the discharge. Very little can be done with a small resonator.

A NOTE ON THE ELECTRICAL TREATMENT OF OBESITY.

Dr. F. Howard Humphris, of London, England, described the method of Professor Bergonie of employing electricity in the treatment of obesity in order to provoke a general exercise or stimulation of the muscles of the body. This method consists in causing the contraction of the muscles some one hundred times a minute by means of a current derived from what may be termed an induction coil, or a coarse wire faradic, whose coefficient of transformation is 2 or 3, the current being interrupted by means of a metronome. Rheostats are used so that each part of the body receives that amount of electricity which it can comfortably bear. The electrodes cover as large a surface of the body as possible.

STATIC CURRENTS AND APPARATUS.

Dr. Herbert F. Pitcher, of Haverhill, Mass., made a plea for the continuance of the use of static electricity. The men who claim that with the advent of the high frequency apparatus the era of the static machine is passing are either warped in their judgment, or they are ignorant of the currents and therapeutic effect of the static machine. No high potential apparatus has yet been produced which will induce the physical effects of the tissue pulsation with resulting tissue drainage.

ON THE USE OF COMPRESSED CASES FOR INCREASING THE EFFICIENCY OF THE STATIC MACHINE.

Dr. F. Howard Humphris, of London, England, read this paper. Anything which will enable the physician to charge his static machine rapidly and in all weathers, and also to increase its capacity of voltage, must be welcome. Sometime ago I conceived the idea of leading into the case some fresh air

passed through sulphuric acid and ice, and removed by means of a suction pump at the other side of the case. But the simpler procedure of replacing the moist, impure air by CO_2 or liquid air I decided upon trying first. On the subject of liquid air a report will be made later. The experiments with CO_2 have been so successful that I think I may say that, given a static machine in good running order and a cylinder of CO_2 it can be made to charge in all weathers and in all climates, and, moreover, given a machine from which the current is insufficient with CO_2 the capacity and voltage can be readily increased from 20 to 30 per cent.

REPORT ON PHOTOTHERAPY.

Dr. Edward C. Titus, of New York, said the committee had endeavored to determine whether the beneficial action of phototherapy is due to heat or to light or both together. Considering the very powerful effect of certain invisible, non-caloric luminous radiations, the analgesic and soothing action of certain kinds of light, it must be admitted that their effect cannot be attributed to heat, or only in a minor degree. The luminous radiation is the principal, if not the unique, element of this action. The committee recommended plans for the construction of a modern electric light bath cabinet.

ROENTGENOLOGY.

Dr. G. E. Pfahler, of Philadelphia, reviewed in detail the recent advances in roentgenography and roentgenotherapy, dwelling particularly upon the use of the X-ray in the diagnosis of abdominal conditions.

STANDARDIZATION OF PHYSICAL THERAPEUTIC MEASURES.

Dr. William Benham Snow, of New York, read this report. The wisdom of the establishment of standards for the employment of electro-therapeutic and other physical measures is demonstrated as year after year the papers read before the Association partake less of the empiric. Rational medicine demands rational standards and the universal recognition of the laws of physics and the action of physical agents upon the human organism in conformity with the various demonstrable physiologic effects and their action upon pathological conditions.

SOME OF THE THERAPEUTIC INDICATIONS OF HIGH FREQUENCY CURRENTS.

Dr. Herbert F. Pitcher, of Haverhill, Mass., outlined some of the more common conditions and diseases in which the high frequency currents are indicated.

STATIC ELECTRICITY IN NERVOUS AND MENTAL DISEASES.

Dr. J. J. Kindred, of Astoria, L. I., in

this paper dwelt particularly upon the use of electricity in the relief of pain, nervous instability and brain fatigue, anterior poliomyelitis, tabes dorsalis, dementia precox, hypertension and arteriosclerosis and neurasthenia.

THE RATIONAL TREATMENT OF CARDIO-VASCULAR DISEASE.

Dr. William Benham Snow, of New York, read this paper. The rational treatment of cardio-vascular disease consists in the removal of the cause and the relief of existing conditions. If due to toxemia, the latter should be limited by evacuation with cathartics and high colonic flushings, the administration of intestinal antiseptics, and the limitation and selection of proper foods. Rowing teams in colleges should be abolished. College youths who have developed cardiac hypertrophy should be warned against lapsing into a quiet life. In tachycardia due to hypersecretion of the thyroid, treatment of the gland by the X-ray promptly relieves the tachycardia and dyspnea in these cases. The auto-condensation method of treatment of hypertension is one of the most valuable additions to the materia medica, and may be used in all cases except where parenchymatous nephritis is present. This method has been used with uniform success, employing the couch, with a current of four or five milliamperes for twelve minutes daily or upon alternate days, or less frequently, according to indications.

BENEFITS FROM THE EMPLOYMENT OF ELECTRICITY IN GASTRO THERAPEUTICS; CONFIRMED RESULTS AND DEDUCTIONS FROM OVER A THOUSAND CASES.

Dr. Anthony Bassler, of New York. The cases studied were uncomplicated primary cases of sensory, secretory and motor disturbances. In the hyperesthesia cases continuous galvanism with the positive pole internally is useful. In obscure enteralgias and tenderness along the colon galvanism is worthy of trial. In neurasthenias our experience that the high frequency and static currents are best. In the secretory cases, if no motor disturbances were present, the galvanic current was used. The best results of treatment were obtained in the myasthenic and the atonic cases.

ELIMINATION.

Dr. Charles O. Files, of Portland, Me., said that elimination has always been considered of great importance in the treatment of disease. The old methods of blood-letting, large doses of calomel and jalap, or small doses of calomel for the purpose of inducing salivation, the use of tartar emetic, cupping, blisters, setons and moxas have

happily passed away. The necessity of getting the emunctories to work, of stimulating all the excretory organs, will never go out of fashion. We have in physical therapeutics means of accomplishing the desired end, without doing violence to other organs. These means are hydrotherapy, radiant light and heat, massage, electricity in many modalities, and vibration. †

TREATMENT OF CONSTIPATION.

Dr. H. M. Imboden, of Clifton Springs, N. Y. Dyschezia will usually be corrected by the establishment of regular habits. Go to stool at exactly the same time each day. Hot and cold douches to the perineum are good in some cases. The static wave current with the electrode introduced into the rectum has been very satisfactory, the treatment being given just before the hour selected for defecation. Glycerine suppositories may be used in some cases. Enemas must be used occasionally. In the class of cases where the feces pass slowly through the colon the measures to be used are diet, exercise, the interrupted continuous current, cold sitz-baths, the alternating pan douche, and deep abdominal kneading either with the hand or with the vibrator.

ENFORCED COMPENSATION.

Dr. Gustavus Werber, Washington, D.C., in this paper does not consider compensation in its usual application to designate the readjustment of the histological elements of various organs to bridge over the danger caused by morbid processes, but only in the broadest sense to include all those processes by means of which nature protects herself against the results of disease or accident. The paper is offered as a speculation as to the means of increasing our control of these forces. Among the means that have been used to this end are faith, fasting, heat, cold, drugs, sudden loss of blood, hypnotism with suggestion, physical exercise, by challenge or placing the vis on the defensive, and by anything which depresses the index of vital resistance and is followed by reaction.

ACUTE BRONCHOPNEUMONIA (?) RELIEVED BY THE STATIC WAVE CURRENT: REPORT OF A CASE.

Dr. A. B. Hirsh, of Philadelphia, reported a case of acute pulmonary infection in which, after other measures had failed to give relief, a metal electrode 4 by 8 inches placed over the front of the upper chest and a 12 minute application of the static wave current was given. Its effects were so prompt in relieving the pressure and weight within the chest, the cough and bloody sputum, that the current was used morning and evening for several days, and the patient went on to rapid recovery.

A RATIONAL MUFFLER FOR THE STATIC OR HIGH FREQUENCY SPARK.

Dr. George E. Pfahler, of Philadelphia, presented a muffler that he had devised. It consists of two glass plates (cleaned X-ray negatives, 14 by 17 inches are used), which form the top and bottom of the box constituting the muffler. The sides of the box, made of hard rubber, are 5 inches deep and closely fit the outside of the glass plates. Holes are cut in the ends for the passage of the sparking rods.

RATIONAL TREATMENT OF DUODENAL INFECTION.

Dr. Frederick H. Morse, Boston, Mass., read this paper. Duodenal infection may be acute and of little consequence. Rigid diet and a little antiseptic medication will bring about a cure. In the chronic conditions of duodenal toxemia where the infection has gone through the meshes of the diseased bowel, the infiltration of the poison is so far outside of the immediate digestive tract that the usual medicinal efforts avail nothing. This is where vibratory impulses set up by electricity and physical therapy are our most effectual means of eliminating the infection. The modalities mentioned in the treatment are the sinusoidal, faradic and galvanic surging apparatus and the wave current from the static machine. A long train of symptoms ordinarily called rheumatism, rheumatic sore throat, sciatica, constipation, neuralgia, etc., are usually cured when the pent-up toxemic infection is removed.

IS THE PRESENT ATTITUDE OF THE MEDICAL PROFESSION TOWARDS PHYSICAL THERAPEUTICS JUSTIFIABLE?

Dr. J. C. Walton, of Richmond, Va., read this paper. While we all frankly admit that physical therapy has its limitations, and it is not claimed by its most enthusiastic devotees to be a panacea, still it fills a very important place in therapeutics, and there should not be any antagonism between this and any other progressive rational system of therapeutics, especially drug and serum therapy, and that very important branch of therapy, the therapy of the ductless glands. The sole object and aim of the true physician is to cure his patients, and to accept the truth wherever found. He should always approach the solution of these great problems in therapeutics with an open and unbiased mind, striving diligently to ascertain the truth.

THREE CASES OF PELLAGRA TREATED BY HIGH POTENTIAL CURRENTS.

This paper, by Dr. D. H. Yates, of Madison, Fla., was read by the secretary. The author was led to use this treatment from the similarity of the skin lesions to those of chronic eczema. The method is applied as

follows: The patient is seated on an insulated platform with the shoes removed. The feet are placed on the metal plate, and the plate connected to the positive side of the static machine. A crown electrode is connected to the stand support above the patient's head, and connected by a wire or chain to the negative side of the machine. The machine is started with the spark gap closed, and the sliding rod is then drawn out as far as possible without causing painful contraction of the muscles of the leg. The machine is regulated so as to give about 200 discharges at the spark gap per minute. The author thinks that the efficiency of this current in these cases, as in other cases, is due to its influence on metabolism.

ARSENIZATION IN INOPERABLE CANCER—A PRELIMINARY NOTE.

Dr. G. Betton Massey, of Philadelphia, read this paper. The possibility that the ions of arsenic when electrically diffused might be more efficacious as a local surgical protozoicide than the zinc-mercury ions suggested itself to the author shortly after the announcement of salvarsan. The experiments to test the question were begun in October, 1910. All but one of the patients on whom the treatment has been used are still under treatment, and it is too early to state the results of these experiments. The pure arsenic ion is obtainable from metallic arsenic shaped into an electrode so that it may be applied as the anode of a direct current when thrust into the middle of the growth, the cathode being placed elsewhere on the body surface so as to secure a good contact with the least local action under this pole. The result of this treatment is the production of a dark slough. Each patient subjected to the treatment has improved in general health more rapidly than under the zinc-mercury ions.

NEURASTHENIA AND ITS TREATMENT BY ELECTRICITY.

Dr. F. Howard Humphris, of London, England, read this paper. Rest is only applicable to the milder forms of neurasthenia. The patient should not have too much to do with his relations. The treatment most successful in my hands is that by one or other of the various forms of electricity. The form of electricity must vary with each class of case. Where the blood pressure is subnormal the application of the static brush discharge to the bare spine is the most successful. During treatment the patient is encouraged to go on with his work, keeping regular hours and avoiding alcohol and fatigue. In cases where the arterial tension is high the direct D'Arsonval current is employed. For insomnia use the hot mustard foot bath.

Where the appetite is poor give bitter tonics.

THERMOTHERAPY.

Dr. Byron S. Price, of New York, read this paper. Body thermotherapy of 350 F. and upwards is especially indicated as a general and rapid eliminant in septic and toxic conditions, and is of great importance as an addition to the action of currents. It reflexly produces profound tonic metabolism and elimination (through the nervous system and increased activity of circulation), measured by urinalyses, decrease in hypertension and later improved health. All depression to nervous and circulatory systems appears to be completely prevented by short, high temperature treatments, and by maintaining the peripheral and glandular circulation. This is accomplished by inaction on the part of the patient, and immediate transfer to the hot water bath, followed by salt rub and suitable friction massage, and upwards of five hours' absolute rest.

TREATMENT OF POLIOMYELITIS ANTERIOR.

Dr. Grafton E. Day, of Collingswood, N. J., said that the prophylaxis of this disease consisted in quarantine, disinfection of the secretions, and the giving of urotropin to those exposed. Urotropin administered in the beginning of an attack will prevent paralysis in the majority of cases. Curative measures are, prompt and thorough elimination, with calomel, castor oil or an enema; the ice cap; easily digested foods; diuretics; hot packs to increase diaphoresis; the administration of urotropin from the beginning; lumbar puncture to relieve intense pain; sedatives where other measures fail to relieve suffering; wrap the affected member in cottonwood; threatened deformity should be met by the use of properly fitting braces; massage and active and passive movements are most valuable. Galvanic stimulation should not be delayed beyond three weeks. Radiant light and heat are also good.

PRELONEPHRITIS TREATED BY THE STATIC WAVE CURRENT, WITH EXHIBIT OF CASE.

Dr. S. Leslie West, of Philadelphia, exhibited a case, a girl 15 years of age, who presented the usual symptoms of parenchymatous nephritis complicated by a suppurative pyelitis. The Morton wave current was given over the region of the kidney and liver, followed by the brush discharge over the whole length of the spine. Improvement began from the start. Treatment was continued for twenty-five days. The patient has been well since the first of this year.

SUB-ACROMIAL OR SUB-DELTOID BURSTITIS. OFTEN MISTAKEN FOR BRACHIAL NECRITIS.

Dr. Park S. Breneman, of Lancaster, Pa. Since beginning my investigation of this

condition I have examined twenty-five or thirty cases with pain in the arm more or less marked that might lead one to believe that bursitis was present. In eight of these cases a shadow of the bursa or contents of the bursa is distinctly shown. In one, a traumatic case, a shadow is shown which I took to be a fracture of the tuberosity of the humerus with uplifting of the fragment, which might easily be mistaken for a bursa. In nine cases a more or less distinct shadow in the position of the bursa is shown. In the balance of the plates the condition of the shoulder appeared normal. All cases should be examined with the X-ray before treatment. In the acute condition where the shadow is not found the arm should be put at rest and palliative measures used. Where the shadow shows the remains of a bursitis the adhesions should be broken up under an anesthetic. Electricity and massage play an important part in the treatment.

Special Study of Pellagra.

The Department of Tropical Medicine of the New York Post-Graduate Medical School is organizing an expedition to investigate pellagra in the Southern States. The work will start in the spring and is made possible by the gift to the Institution for this purpose of \$15,000 by Col. Robt. M. Thompson and Mr. J. H. McFadden.

Important New Preparations of Parke, Davis & Co.

General practitioners will be interested in the announcement by Parke, Davis & Co. of two new products of their chemical laboratories. Proposote and Stearosan are the names chosen to designate the preparations in question.

Proposote is creosote in combination with phenylpropionic acid. It is a straw-colored, oily liquid, neutral in reaction, nearly odorless, and having a slightly bitter taste suggestive of creosote. It is insoluble in water, but is slowly decomposed by alkaline liquids. The indications for it are the same as those for creosote. Tubercular cough following pneumonia, the cough of pulmonary tuberculosis, acute and chronic bronchitis, purulent bronchitis, abscess of the lung, asthma, and bronchitis complicated with Bright's disease are among the pathological conditions benefited by its administration. Being insoluble in acid media, it passes through the stomach unaltered by the gastric juice, to be slowly broken up by the alkaline fluids of the small intestine, hence may be given in gradually increasing doses until the desired effect is obtained. During prolonged administration, as is well known,

creosote disturbs digestion, impairs the appetite, and often causes nausea and vomiting. Proposote is free from this objection.

Stearosan is santalol combined with stearic acid. It is an odorless, tasteless, light-yellow oily liquid that is insoluble in water and dilute acids but is slowly broken up by alkaline fluids. The pathological conditions in which it may be employed with advantage are precisely those in which santal oil has long been used—chronic gonorrhea, cystitis, urethritis, vaginitis, pulmonary disorders such as chronic bronchitis, bronchorrhea, etc. It possesses therapeutic properties fully equal to those of santal oil, over which it has the important advantage of being practically without irritating effect upon the stomach. The explanation of the latter fact is that the preparation is not attacked by the acid gastric juice, but passes into the small intestine, where it is broken up or emulsified by the alkaline fluid and absorbed without difficulty. The distressing eructations and loss of appetite attendant upon the administration of santal oil do not occur when Stearosan is given.

Both Proposote and Stearosan were thoroughly tested clinically before being offered to the medical profession, and practitioners may be assured of their therapeutic efficacy in all cases in which they are indicated. They are supplied in 10-minim elastic gelatin globules, boxes of 25 and 100, and may be obtained through retail druggists generally.

Tuberculosis and the Ductless Glands.

Upon the basis of a large number of known facts and observations the author is disposed to believe that tuberculosis of the ductless glands is of frequent occurrence, but that the absence of anatomically recognizable lesions has hitherto led to its being generally ignored.

The thyroid gland may be taken as an example. Many disturbances of growth and the characteristic physical features of the group of individuals said to be "predisposed to tuberculosis" are to be explained through an unrecognized tuberculous involvement of this gland. The so-called stigmata of predisposition to tuberculosis are in reality evidences of effects already produced by the disease. Thyroid insufficiency of tuberculous origin, carried to the extreme, leads even to infantilism.

In the pancreas, ordinary sclerosis is the normal end-result in the reaction of this gland to tuberculosis. In the presence of pancreatic diabetes one should, therefore, *a priori* systematically look for tuberculosis as the cause of the disorder, at least in cases where no other manifest cause, such as

syphilis, an infectious disease, or habitual intoxication, is present to account for it. This course seems all the more logical since it is generally agreed that a large number, if not the majority, of diabetes succumb to pulmonary tuberculosis.

Similar considerations hold good in the case of the ovaries. The association of tuberculosis with hypoplasia of the sexual organs is very frequent in young girls at the onset of puberty. The hypoplasia should be considered a direct resultant of the bacillary infection.

In the testicle, tuberculous infection may result either in a lowering or an exaggeration of functional activity. In the first instance, there will be disturbances of growth; in the second, excitation in the sexual sphere. The well known and variously accounted for hyperexcitability of the tuberculous is a direct consequence of their disorder, representing simply the effect produced by the disease on the interstitial glandular tissues of the testicles. Normally this tissue acts as a regulator of sexual activity, the latter varying according to conditions peculiar to race, age, or the individual. If a toxic irritation comes on to place the cells in a state of hypercrinia (excessive glandular activity), a "new man" is the result, merely owing to the production of a secretion in excess.—Poncet, Academie de Medecine.

A Diagnostic Sign in Scarlet Fever.

The author refers in this connection to the characteristically easy development, in the presence of scarlatina, of cutaneous hemorrhages through the agency of artificially produced local hyperemia. From his experience in several hundred cases, it appears that the resisting power of the skin capillaries is greatly impaired by the scarlet fever poison. In almost every case in which Bier's hyperemia was produced by the application of a rubber band to the arm, more or less extensive cutaneous hemorrhages were observed on the flexor surface at the bend of the elbow.

In performing the test the band should be applied sufficiently tightly to render the veins very conspicuous and the forearms and hands cyanotic, without obliterating the pulse. After ten or fifteen minutes the band is removed, and if the thin skin on the flexor surface of the elbow is then put upon the stretch in order to render it anemic the hemorrhagic extravasation, if present, will appear as very fine, dark points.

A tendency toward the development of hemorrhage was also noted in cases of measles, but it was much less marked, the petechiae appearing much later, first in the eruption, and then on the normal skin.

In a case suspected to be one of scarlatina, a negative result in this test, the author claims, would speak strongly against the presence of this affection, while a positive result, taken in conjunction with other symptoms, would be of undoubted diagnostic significance.—Leede, in *Munchener medizinische Wochenschrift*.

Treatment of Inoperable Cancer of the Cervix.

In an address to the International Congress of Obstetrics and Gynecology, Betrix (*La Gynecologie*, June, 1911) puts forward a strong plea for a more careful and thorough treatment of cases of cancer of the cervix too advanced for the radical operation. Since the abdominal operation by Wertheim's method has been adopted, the proportion of cases available for the radical operation has greatly increased, but there still remain about 40 or 50 per cent. in which any attempt at complete extirpation of the uterus would be hopeless by reason of the involvement of the vaginal walls, bladder, rectum, or pelvic connective tissue. In such cases it has too frequently been the practice for gynecologists to order deodorant douches and morphia and do nothing more, or perhaps to curette the diseased cervix and apply some caustic. Betrix points out that in a fair proportion of such cases life can be considerably prolonged and, in a few instances, the disease totally eradicated if a proper line of treatment be followed. The aim of all treatment in such cases should be the thorough destruction of the cancerous tissue, and not merely the amelioration of such symptoms as hæmorrhage, fœtid discharge, and pus.

The treatment which he, along with others, has found most effective is by the actual cautery, with or without a previous curettage of the diseased area. Curettage without cauterization ought to be totally abandoned, as it has been found in many cases that the extension of the disease after it has been very rapid, especially in young women, is due probably to the opening up of lymphatics. His method is as follows:

The patient has a general anæsthetic and the mass of cancerous tissue is scraped away with a curette until hard healthy tissue is reached. Care must of course be taken not to injure bowel or bladder. The hæmorrhage is free and the scraping must be done rapidly. The cautery is then applied at a red heat, first to the areas which are bleeding most, and then all over the cavity. He prefers the actual cautery to the Paquelin, as its action is deeper and more certain. Different sizes are required, the smaller ones being used to reach the depressions.

The cavity and vagina are then plugged with dry gauze, on which bismuth and tannic acid may be applied. The author lays great stress on the gauze being dry. It is left in for three or four days and then renewed. Chemical caustics such as nitric acid, chloride of zinc, or tincture of iodine can be applied to the cavity if necessary a fortnight after the curetting. As a rule they are not necessary. The slough is usually cast off in from twelve to fourteen days. At this time there may be a slight elevation of temperature. The immediate results are good and parametric infiltrations often clear up. As regards permanent cure, this is more frequent in cervical canal cancer than in that affecting the vaginal aspect. Fraenkel reports seven cases of cure out of fifty operated on, and others, such as Sims, Prochownik, Czerny, and Chrobak, have recorded permanent cures. It should therefore be more widely recognized that the treatment of these advanced cases of cancer is by no means so hopeless as the majority of men are inclined to think.—*Edinburgh Medical Journal*.

Forster's Operation in the Gastric Crises of Tabes and in Other Conditions.

The gastric crises of tabes owe their origin to the hyperæsthesia of the gastric mucous membrane. The affected nerve fibres run from the mucosa to the solar plexus, traverse the semilunar ganglion, and by way of the splanchnic nerves reach the posterior roots of the seventh, eighth, ninth, and tenth dorsal nerves on either side. Forster's operation consists in opening the spinal dura mater and resecting several millimetres of each of these posterior roots. The technic is thus described by v. Pauchet (*Ann. Internat. de Chir. Gastro-intest.*, January to April, 1911): The patient is laid prone on a sloped table so that the head is lowest. To render the vertebræ more prominent, a cushion is placed under the upper part of the abdomen. The surgeon marks the fifth and eighth dorsal spines, the former corresponding to the seventh nerve-root and the latter to the tenth. The incision runs from the fourth to the ninth dorsal spine, and the vertebræ are cleared with a periosteum separator as far as the costo-vertebral articulations on each side. The spinal canal is then opened as in laminectomy along the whole length of the wound, the dura is incised mesially, and the edges are retracted by two sutures inserted on either side. With a blunt strabismus hook the operator identifies and picks up the posterior roots near the middle line, and follows them to their point of emergence through the dura. Each is in turn resected, and the section is sometimes accompanied by respiratory and circu-

latory difficulties. These dangerous reflexes may be suppressed by injecting novocain into the nerve-roots before they are divided. The dura is closed with catgut and the wound closed in layers without drainage. The patient is laid on his face or his side in bed, but not on his back, for several days, and he is allowed up as soon as the wound is healed. To prevent the escape of cerebro-spinal fluid and lessen the risk of infection some surgeons recommend extra-dural resection of the posterior roots.

As the result of the operation the gastric pain and vomiting disappear at once, and the patient is again able to take food.

Forster's operation has also been performed with good results in forty cases of Little's disease (spastic diplegia of infants) and in spastic paralysis from other causes—Pott's disease, traumatic paraplegia, cerebral paraplegia, arm contracture of cerebral origin, athetosis, and hydrocephalus. Slight benefit has been observed in some cases of hemiplegia, cerebral syphilis, and lateral sclerosis. In multiple sclerosis the results have for the most part been unfavorable.

Other recent papers on the subject are those of Leriche and Cotte (*Journ. de Chir.*, May, 1911) and Stiefler (*Wien. klin. Woch.*, August 10th, 1911), the latter including a comprehensive bibliography.—*Edinburgh Medical Journal*.

Study of the Brown-Sequard Phenomenon.

Greidenberg (*Arch. de Neurol.*) deals with the above interesting subject. The course of transmission of the various sensory impulses within the spinal cord is still a matter of considerable uncertainty. It is definitely known that the cord is the seat of the transmutation of the impulses of the peripheral into those of the secondary level of the afferent nervous system, and it is known that this transmutation and recombination takes place on the same side as that by which the impulses enter the spinal cord. In other words, the second relay always begins on the same side of the middle line. The second sensory paths cross with greater or less rapidity, so that ultimately all, except those subserving the sense of passive position and movement and tactile discrimination have passed to the opposite side, within the limits of the spinal cord. And even these exceptions cross at the upper end of the cord after reaching the dorsal nuclei. In the cord, too, sensory and non-sensory fibres become separated, the latter forming such a group as the direct or cerebellar tract. Head has shown that each specific quality of sensation is conducted in its own constricted path or paths in the spinal cord. Thus, pain produced by a

pin-prick of the skin, and pain evoked by deep pressure over a sensitive skin are propagated along definite peripheral afferent paths to the spinal cord; but within the spinal mechanism itself all painful sensations travel by the same path, and if the pain be interrupted in the cord, then all forms of pain are interrupted. Similarly, in the peripheral nervous system, sensations due to the application of the extremes of heat or cold are, under pathological conditions, lost together, and, on regeneration, return together (protopathic sensibility), whilst the sense of fine discrimination of small grades of temperature—those usually called warm or cool—may be present or absent (epicritic sensibility), entirely independently of the other two, the reason being that they travel by different fibres. But in the spinal cord all degrees of heat are carried by fibres which run together, and therefore all degrees of heat are, under pathological conditions, affected together, and similarly all forms of cold.

Although the above facts are fairly generally accepted, yet there is still considerable discussion as to which regions of the cord the various sensations traverse. It is believed that painful impulses pass up the spinal cord, chiefly through the lateral and partly in the ventral portions of the ventrolateral white columns, and is almost entirely crossed. The region concerned is fairly well covered by Gower's tract. This interesting fact has also been established—that, after injury the corresponding homolateral path may be opened up or utilized for pain conduction. Conduction of heat and cold in the spinal cord is said to occur in man in separate paths, chiefly in the lateral columns, and is almost entirely crossed, though homolateral paths may, at times, replace the crossed tract. In fact, heat and cold appear to run close to the pain path in Gower's tract. It has been noted that heat and cold sensibilities are not absolutely indissoluble in the cord, but their separation is rare.

In regard to touch and pressure, Head has shown that these are conducted quite separately peripherally, but that in the spinal cord the two run together. In the cord there are two paths for these sensations, namely, in the dorsal white columns and the contra-lateral ventral white column. It is to be noted that the crossing of those running up in the ventro-lateral tract probably does not occur for several segments above the point of entry of the nerve-roots. In connection with muscular sensibility, Sherrington states that this term is best taken to include all reactions of sense arising in motor organs and their accessories, and is based on a specific set of sensations,

obtained by specific sense organs in the muscles, tendons, joints and all accessory organs of movement. In the cord these impulses are conveyed homolaterally along two paths, unconsciously along the spinocerebellar tracts, and consciously as well as unconsciously along the dorsal white columns of the same side.

Lesions of the dorsal columns cause various symptoms, according to the place where the columns are interfered with. Destruction of the entering dorsal roots must interrupt the whole sensory path in these roots, and must induce not only the loss of every kind of sensation, but also of reflexes, including the patellar reflexes. Degeneration of the dorsal columns is accompanied by slight disturbances of skin sensation, and the muscle sense always suffers. The power of movement does not suffer, but there is a certain degree of loss of muscle tone. Destruction of the grey substance, in which a root ends, leads to segmental anæsthesia on the same side; when the grey substance of the dorsal horn is alone affected, as in intramedullary hæmorrhage, the sensations of pain and temperature are chiefly involved. The paths corresponding to these must cross within the grey substance, because in a unilateral lesion the whole body below the level of the lesion on the injured side is more or less insensitive to these stimuli. Various observations and experiments in animals indicate that the crossed fibres proceed brainwards in that part of the lateral column which lies ventral to the pyramidal tract. Those fibre tracts which transmit touch and pressure impulses from the skin to the spinal cord, must run at first in part in the dorsal columns and in part in the grey matter. The clinical observations of unilateral lesions are very inconsistent. Usually the opposite half of the body is insensitive for touch and pressure; but frequently this is not the case, and at times anæsthesia happens on the same side as the lesion has been observed. It thus appears as if the path for touch and pressure were double-sided. In this case the uncrossed path lies probably in the dorsal columns and the crossed path through the grey matter to the columns of the other side. Observation has shown that in some still unknown manner other symptoms arise after one-sided section of the spinal cord, especially hyperæsthesia of the opposite side. Combinations of lesions must, however, also occur, as in amyotrophic lateral sclerosis. In such cases clinical appearances are paresis, spasm, muscular atrophy, corresponding to the anatomical condition of the pyramidal tracts and the ventral horn cells.

In this latest review on the subject by Greidenberg, he states that many authors

agree that tactile impressions pass up both in the posterior columns of the same side and in the lateral columns of the opposite side. Muscle sense probably passes up in the posterior columns of the same side; pressure sense runs in the posterior columns of the same side. Another view is that pain runs mainly in the anterolateral columns of the opposite side, and apparently in the anterior and posterior columns of the same side. Thermal sensations run almost entirely in the anterolateral columns of the opposite side. Tactile and pressure sense run together in the posterior columns on the same side, and the anterior columns of the opposite side. The idea of position is conducted in the anterior, but also in the lateral and posterior columns.—*Australasian Medical Gazette*.

Arthritis in Epidemic Cerebro-spinal Meningitis.

Vigot (*Gazette des Hopitaux*) reports the case of a patient, a male of 18 years, treated with Dopfer's serum. After four intra spinal injections of 20 c.c. on successive days the acute symptoms subsided, but on the seventh day of illness arthritis, with considerable effusion, declared itself in both knees. There was well marked swelling but little redness, and the temperature rose to 104° F. Two days later 80 c.c. of fluid were withdrawn from the right knee-joint and 60 c.c. from the left. The fluid in both cases was purulent and gelatinous and contained meningococci. The treatment adopted was interesting, 20 c.c. of Dopfer's antimeningococcal serum being injected into each joint. The right knee responded at once, but in two days the left knee was again much swollen and was punctured a second time. The fluid was still purulent and a few meningococci were present. A further injection of 10 c.c. of serum was sufficient, and within a week both joints were quite normal.

Vigot discusses this complication of meningitis, and points out that while in most instances the arthritis appears in the first week of illness, it may even precede the first meningeal symptoms. It must, of course, be distinguished from the simple arthritis due to injections of serum and also from rheumatic and gonorrhœal inflammations.—*Dublin Medical Journal*.

The Internal Secretion of the Ovary.

Sauve gives the structure and function of the ovary as double; the corpora lutea, organized on the type of the vascular glands, preside over the functions of menstruation and of conception; it causes the increase of the muscular and mucous tissues of the uterus in pregnancy, and for this reason in

ectopic pregnancy the development of the uterus goes on for two and a half months. From the corpora lutea by injections in rabbits a serum has been obtained which immunizes against conception. The interstitial portion of the ovary with its cells acts upon all parts of the general system. It acts favorably on the formation of bony tissue, assists in the regulation of the circulation, the mass and hemoglobin content of the blood, increases the secretion of milk, the urinary secretion, the gaseous exchanges in the lungs, and the desire for nutrition, and maintains the equilibrium of the nervous system. Its removal brings about a menopause that is little different from the natural menopause, and that does not destroy the sexual instinct, but, on the contrary, in some cases increases it. There are few severe cases of ovarian insufficiency. To treat this condition there are three means: ovarian therapy, ovarian conservation, and grafting. Ovarian therapy is inadequate; ovarian conservation is at present seldom attempted; ovarian grafting is in its infancy and should be more frequently attempted. It has no bad effects that are important.—*La Riforma Medica*.

Tuberculosis and the Tonsils.

Lasagna has made various researches with reference to the penetration of tuberculosis into the lungs through the tonsils. He injected the tonsils in cadavers, made experimental injections into rabbits, and examined the tonsils in 95 cases of death from tuberculosis. From the injections in the cadaver he concludes that the course of the lymphatics from the tonsils and from the upper air passages in general does not reach the thoracic organs, but enters directly into the large lymphatic trunks. From the examinations of tonsils from those who died of tuberculosis it resulted that pulmonary tuberculosis exists frequently with secondary tonsillar affections, that tonsillar tuberculosis is rare with intestinal tuberculosis, and that bacilli of tuberculosis and infections of the tonsils exist, accompanying specific affections of the various organs. From experimental injections in animals he showed that tubercle bacilli injected into the tonsils cause local lesions, diffusions into the lungs and intestines by inhalation and swallowing of bacilli. Tuberculosis of the tonsils is transported by the lymphatics to the glands of the neck but does not pass from these into the thorax. The final conclusions of the author are that the respiratory organs are a method of entrance for the bacilli into the lungs only by the circulation; only very rarely do the bacilli penetrate to the bronchial glands from the cervi-

cal glands.—*Archivio per le Scienze Mediche*.

Specific Treatment of Diabetes.

The treatment by duodenal extract, which was introduced some years ago in consequence of the investigations of Moore and Abram, who failed to find prosecretin in the duodenal mucous membrane of diabetics, has now fallen largely into desuetude. They prepared an acid extract of duodenal mucous membrane (secretin), which they administered to patients in the expectation of thereby stimulating the flagging activity of the pancreas. Their results have not been verified by other observers either as regards the absence of the duodenal ferment in diabetes or the success attending its administration. Similar disappointment has attended the treatment by pancreatic extracts. Rennie and Fraser prepared an extract from the islands of Langerhans in certain fish which have this part of the pancreatic tissue collected into a mass visible to the naked eye, and later Zuelzer believed that he obtained success with an extract made from dog's pancreas removed during the height of digestion. All these pancreatic methods of treatment in the hands of other observers have proved disappointing. This is not to be wondered at when we consider that Cecil found the pancreas affected in only 50 per cent. of cases of diabetics under 30 years of age. Still, in view of the close relation shown by the experimental method to subsist between total removal of the pancreas or its complete separation from the duodenum and the onset of glycosuria, these forms of treatment might still be tried in cases where the pancreas is obviously at fault.

Rudisch recommended strongly the use of atropin in diabetes. Probably this acts on the same principle of slowing metabolism, especially that part transacted in the liver, as did the older treatment by opium and codeine. Wallace found in experiments upon a series of depancreatized dogs with artificial glycosuria that this mode of treatment had no effect whatever.

With regard to diet, the oatmeal treatment of von Noorden still holds its own as the most suitable shape in which to give carbohydrate. Floue made from the soy bean is recommended by Friebeuwald and Ruhral because of the extremely low carbohydrate content of this legume, of which the composition is, water 10 per cent., protein 35 per cent., fat 17 per cent., starch 5 to 6 per cent.—*Edinburgh Medical Journal*.

"Return Cases" of Diphtheria.

As interesting report on "return cases" o

"When the Heart is Weak"

the whole body usually suffers; every function is depressed, every tissue shows the lack of adequate nourishment. Effective treatment, therefore, should aim to accomplish not merely cardiac stimulation, but a great deal more. This is why

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has proven so valuable in all diseases of the heart. Used in appropriate dosage it not only supports and reinforces the heart's action, but in addition so improves the appetite, promotes digestion, aids assimilation and increases functional activity that the whole bodily nutrition is markedly elevated and the general health correspondingly benefited. ¶ Gray's Glycerine Tonic Comp. has, therefore, a wide range of usefulness in the treatment of cardiac affections, and while not a specific nor a cure-all, it exerts a tonic reconstructive action that not only reinforces the heart, but lightens its burden.

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diphtheria at the Blegdam Hospital at Copenhagen is made by Dr. Sorensen in the Hospitalstidende. During the last twelve years 7,037 cases of diphtheria have been treated there. There were eighty-two "return cases"—that is to say, there were eighty-two fresh cases of diphtheria among members of their families after the patients had returned home, or a proportion of 1.16 per cent. Of the eighty-two patients who were the apparent cause of infection, eight-one had been examined bacteriologically, and only eight showed the presence of the diphtheria bacillus in the throat. Of the 7,037 diphtheria patients during the twelve years about seven hundred were carriers of the Löffler bacillus when they returned home, and yet these seven hundred patients only supplied eight "return cases," or 1.14 per cent.—that is, almost the same proportion as given above, 1.16 per cent. It appears, therefore, that the bacillus carriers are not more dangerous to their families than those ascertained by bacteriological examination to be exempt. In other words, according to these statistics, the bacteriological examination of the throat, upon which so much stress has been laid recently would appear to have by no means the same value that has been attributed to it as a means of determining the infectibility of a patient after an attack of diphtheria. The author further states that the "return cases" were not specially severe, and there was a single fatal case among them. This is, of course, contrary to the experience with scarlet fever, when the "return cases" are generally much more severe than the initial cases.—The London Hospital Journal.

Electrical Treatment of Fibroma and Fibromyoma of the Uterus:

Moutier says that there are cases of fibroma and fibromyoma of the uterus in which operation is unnecessary because one can get a symptomatic cure and reduction of the tumor by the application of a rhythmically interrupted continuous current. This application is used three times a week for ten or fifteen minutes with a strength of 15 to 60 milliamperes. It stops pains and hemorrhages and reduces the size of the growth; it is perfectly harmless and should be tried always before operation. The shock and pain of the application are slight. When there is danger of malignant degeneration, dangerous compression of the viscera or great size, operation becomes necessary. This method has no chemocautic action and is perfectly harmless; no electrolysis is made and no eschar is produced.—Gazette de Gynecologie.

STENOGRAPHER with several years experience, desires position in hospital or doctor's office.

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Spasm of the Glottis and Tetany in Association with Hypertrophied Thymus.

The author reports the case of a child who was brought to the hospital because of violent attacks of spasm of the glottis. In addition he was rachitic and presented the characteristic phenomena of tetany. There was no clinical evidence of hypertrophy of the thymus. Two days after admission the child died. At the autopsy the thymus, which weighed 25 Gm., was found protruding above the level of the clavicles. The parathyroid glands showed apoplectic lesions. This case, the author concludes, would seem to support the theory that thymic hypertrophy plays a role in the pathogenesis of spasm of the glottis.—Chatelin, in the Societe de Pediatre.

Suicide In Australia.

At the September meeting of the Royal Society of New South Wales, Mr. G. H. Knibbs, Federal Statistician, contributed a paper on the "Statistics of Suicide in Australia." The data on which his remarks were based extended over a period of 53 years, from 1858 to 1910. In Australia, a little more than 1 per cent. of all deaths were attributable to this cause, an amount only about two-thirds of that of Europe. His investigations indicated the presence of an oscillation of relatively small amplitude extending over a period of 46 years. Naturally, another half century at least must pass before this opinion can be confirmed. The author pointed out that, though suicide in Europe was increasing, this increase was a diminishing one. He estimated by a formula that, if the present indications were continued, the number of suicides per annum per million of population would be as follows for Europe and Australia respectively: Europe: 1911, 164; 1914, 165; 1917, 166; 1925, 167. Australia: 1911, 107; 1915, 100; 1919, 96; 1924, 97. As in Europe, in Australia also, an annual fluctuation exists, with a maximum in the warmer part of the year and a minimum in the cooler or winter portion. An interesting discussion followed the reading of the paper, during which the opinion was expressed that the publication in the lay press of details of cases of suicide, especially of those show-



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ing unusual features, contributed to the mortality from this cause by suggesting to persons of weak intellect and to those desirous of notoriety, the idea of suicide which otherwise might not have presented itself. The value of the data from year to year was also questioned on the ground that the ease with which the act could be committed doubtless contributed to its frequency. At present, the domestic use of lysol presented to persons in a temporary depressed state of mind a handy means for committing suicide; in the course of a few years this disinfectant may be replaced by some less poisonous one and, other simple ways of self-destruction not being available during the fit of depression, the individual may be able to regain self-control. As an argumentum ad absurdum, consider how the annual number of suicides would be increased were poisons supplied to persons in lunatic asylums. Mr. Knibbs' conclusions as to the diminishing number of deaths from suicide at present in Australia are gratifying and doubtless indicates that the population is tending to live a natural and healthy kind of life.—Australasian Medical Gazette.

Vesical Tuberculosis.—Breton (Annales de l'Institut Pasteur) has made an experimental study of this subject. The bladder lesion is generally regarded as secondary to a tuberculous infection of the kidney or genital organs. Primary tuberculosis of the bladder is rare. Experiments by other workers have shown the possibility of grafting tubercle bacilli on a traumatized bladder or on one the subject of retention, but direct inoculation by simple instillation is exceptional. The author draws the following conclusions from his experiment: The susceptibility to vesical infection varies with the kind of animal employed; it is commonly believed that in man the bladder may be polluted without danger by a tubercle-containing urine without generalized tuberculous infection resulting, the healthy bladder not being normally permeable to the bacillus. It is possible that, owing to their mildness, lesions in cases of tuberculous cystitis pass unrecognized. The kidneys are here involved as a result of ascending infection. It is generally held that renal tuberculosis is a blood infection. Even where lesions of the genital organs precede the kidney infection, the tubercu-



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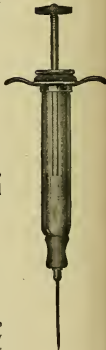
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lous products are probably carried by the blood stream to the glomeruli. But the author's experiments do not support these theories. In the rabbit and guinea-pig infection occurs by way of the lymphatics. The bacilli travel first by the thoracic duct and have to pass the various gland barriers before they are thrown into the general blood stream. It is a lymphatic infection before it becomes a blood infection. Lastly, the author states that his observations afford one more proof of the frequency of tuberculous infection of the lung by way of the lymph blood-stream.

Dr. F. M. Clark, who for a long time has been practicing medicine in Beaufort county, N. C., has decided to locate in Hyde county, N. C., for the practice of his profession. His many friends and patrons will regret to have him leave Beaufort.

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in doctor's office.

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The Choice of Tuberculin.—Bluemel (Muench. med. Wochenschr.) says that the number of tuberculin preparations on the market is truly bewildering. Many of them, he says, have absolutely no therapeutic value, and of those which are really active, the difference between the various ones lies simply in the concentration and absorbability of the preparation. The Koch tuberculin and the tuberculin of Landmann accomplished everything that lies within the power of tuberculin therapy, and are to be recommended because they are easily obtainable, and of standard quality. The most important factor in this method of treatment still remains—the skill and intelligence of the physician. He must be able properly to graduate the dosage and to recognize harmful effects of too large or too frequent dosage. In proper hands he believes the tuberculin has a decided place in the treatment of tuberculosis, but he reminds the reader that a faulty application can make the best therapeutic agent useless.

Sodium Salicylate the Remedy for Rheumatism.

"When a diagnosis of rheumatism has been made, it then behooves one to cast about for some agent that will quickly arrest the process and avert complications. For this, one remedy stands out pre-eminently—namely, salicylates. Preference should be given the sodium salt. Some do not regard this favorable and it is these who have an instrument they do not know how to wield. Plehn has pointed out the "stumbling block" for these, showing that success depends upon adequacy of dosage, and he further observes that the salicylates are as much a specific in acute articular rheumatism as quinine in malaria or mercury in syphilis."

"One strong objection advanced is the inability of the patient to retain the medication because of the nauseating effect. Sodium salicylate has a very sickening sweet taste and should never be administered except in the form of a solution."

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As a reconstructive and tissue nutrient, it stands the most rigid clinical tests and the prescriber may feel sure that definite results will follow its administration. One of its fields of usefulness is in the protracted convalescence consequent upon a severe infection such as typhoid fever. Cord. Ext. Ol. Morrhuæ Comp. (Hagee) stimulates the reconstructive functions and aids materially in hastening the return to health.

The Second District Medical Society of North Carolina met in Washington, N. C., on October 31st, 1911. The meeting was well attended, and the following program was used:

"Address of welcome in behalf of Washington and the Beaufort County Medical Society."—Dr. Jno. C. Rodman.

"Response for the Society."—Dr. C. O'H. Laughinghouse.

"Remarks on the Sanitary Conditions of the Manouever Division, U. S. A., San Antonio and Leon Springs, Texas, with special reference to Typhoid Fever."—Dr. A. K. Tayloe.

"The Importance of an Accurate Diagnosis in Obscure Digestive Troubles."—Dr. Jno. C. Rodman.

"The Occasional Necessity of Cæsarean Section in Transverse Presentations."—Dr. H. M. Bonner.

Dr. Alick Thomas Smith, of Richmond, Va., and Miss Elizabeth Lilly Grissom, of Greensboro, N. C., were married on November the 2nd.

Dr. Smith is a popular young physician. He graduated from the Medical College of Virginia in 1908. Mrs. Smith is a daughter of Dr. and Mrs. W. L. Grissom, of Greensboro.

We are glad to state that Dr. Smith has located in Greensboro for the practice of his profession.

The people of Guilford county, N. C., are strongly protesting the recent requirement made by the County Board of Health, to have every child in the county of school age vaccinated. The people living in certain sections of the county have formed an "Anti-Vaccination Association."

Rheumatism.

"Of the many diseases characterized by serious complications and consequences, acute articular rheumatism is one of the most important. Its frequency in children, its prolonged and painful course, and its tendency to produce permanent cardiac lesions invest it with gravity, so far as the future of the patient is concerned, which its low mortality during the attack does not materially mitigate. Carr says it should be considered next in importance to tuberculosis among the diseases of early life."

Those under middle age are most frequently affected and epidemics occur quite constantly during the fall and spring months. The influence of season can be explained, in a great measure, by the effect of heat and cold upon cutaneous elimination. Those who in the past considered uric acid as the causative agent of this ailment were influenced a great deal by this and did not know that those retained toxic products lowered the protective agents of the body and thereby lessened its resistance to infection. It is a well established therapeutic dictum that in toxic or infectious processes eliminative measures should be employed to increase resisting power. Phagocytosis and immunity bear a direct ratio and when lowered invite disease."

No eliminative will give more prompt and satisfactory results than Tongaline which has been used so successfully for nearly 30 years in the treatment of rheumatism, neuralgia, grippe, gout, nervous headache, malaria, sciatica, lumbago, tonsillitis, heavy colds and excess of uric acid.

The Doctor's own Soap.

There is a "doctor's own soap" on the market that none of our readers should overlook. It is called Carbenzol Soap and is made by the Abbott Alkaloidal Co., of Chicago, who make a good many fine things for the medical practitioner.

This is an all-around antiseptic soap having decided germ-killing power, still being perfectly safe to use. It is a good surgeon's soap to cleanse the hands and site of operation, to wash out ulcers etc. Also, it is fine for disinfecting the hands after attending contagious cases, and utensils used in the sickroom. And to rid hairy surfaces of lice and other parasites it cannot be beat—it certainly does kill the parasites, and without in the least irritating the skin.

Carbenzol Soap may wisely be recommended for the use of patients having eczema and other skin diseases. Containing,



A black and white illustration of a woman with curly hair, shown in profile, applying a small bottle of Glyco-Thymoline to her nose. The bottle has a label with the letters 'G.T.' on it.

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as it does, sulphur, phenols and gusiacols in natural association and in a refined fat-base, it exerts a curative effect in such cases.

It is also an excellent toilet soap for the doctor and his family; just the soap for the bath, the shampoo and for shaving. It makes a rich, creamy lather in a twinkling.

The makers are sending out a miniature cske or the "doctor's own soap", as a sample for trial, to all who request it. It is certainly worth writing for and we suggest that all of our readers do so at once.

Cerebro-Nervous Affections of Women.

Prof. Chas. J. Vaughan, Chair of Gynecology, Atlanta College of Physicians and Surgeons, writes: "Neuralgia constitutes the great cause of danger from the employment of hypnotics, which only afford relief by numbing, but effect no cure. On the other hand, the formation of a drug habit rather aggravates the condition from which relief was originally sought. Neurasthenia, neuralgia and other manifestations, either of an active or passive character, are common and are always peculiarly rebellious to treatment. Cerebro-nervous affections peculiar to women associated with pathological disturbances of the reproductive organs are legion, and most trying to physician and patient. I have found nothing so well suited to these cases as Antikamnia Tablets, administered in doses of from one to three tablets and repeated every one, two or three hours according to the attendant's judgment. These tablets afford complete relief without fostering a drug habit and their exhibition is attended with no unpleasant after-effects. For the relief of painful menstruation there is no combination of remedies so generally successful as Antikamnia and Codeine Tablets. Their sedative, analgesic and anodyne properties especially commend them in the neuralgic and congestive forms of this distressing affection."

Tissue Nutrition in Gripal Convalescence.

If grip were free from treacherous sequelæ, the physician could dismiss his grip patient after the acute period of the disease had passed, feeling sure that an uneventful return to health would soon follow. But these sequelæ strike when least expected. The heart muscles fail, with resulting acute dilatation; or a tuberculous taint manifests itself. If it were made a routine practice to insist that grip convalescents take a tissue food of proven merit, such as Cord Ext. Ol. Morrhuæ Comp. (Hagee),

the complications and sequelæ of the infection would not be met so frequently and in less distressing form. Cord. Ext. Ol. Morrhuæ Comp. (Hagee) contains the very elements the drained system needs to restore it to health and vigor, the contained extractives of the cod liver oil, coupled with the hypophosphites of lime and sodium, supplying this need in admirable manner.

Those unfamiliar with HUX-a-VIN, the antiperiodic and antimalaria par excellence, that is being offered by the old reliable house of The Tilden Company, will do well to write for a free sample, and especially those members of the profession that are in districts where malaria is ever present, both acute and chronic.

Every physician should investigate this most valuable prescription. That the article originated and is being marketed by the Tilden Company is sufficient guarantee of its efficiency.

Hereditary Tendency Toward Twin-Bearing.

—Oliver (London Lancet) says that twenty-four patients out of every 2,500 that he has seen have once or oftener given birth to twins, a proportion, that is, of about 1 in 104; therefore he is convinced of the existence of an hereditary tendency toward twin-bearing. In three only of these patients was there no history of twins either on the female or the male side, and in one or more of those it is quite possible that the default may have been due to ignorance. In this group there are twenty-eight sets of twins, as one patient has borne twins three times and two others had each had twins twice. The twins in thirteen instances are boy and girl, in twelve they are two girls, and only in three are the two boys. The aforesaid twenty-eight confinements produced altogether thirty-seven females and nineteen males, a proportion, that is, of practically two females to one of male; and this, the writer says, is fairly constantly the relationship of female to male births as a result of twin conceptions. This is a noteworthy phenomenon, since in all European countries, whether the legitimate and illegitimate births be computed separately or together, the total annual number of male births always exceeds that of females, and this has been a constant revelation year after year in northern and southern countries alike. In England and Wales the total male and female birth during the year 1907 were, respectively, 467,728 and 450,314, or proportionally 103 or 104 males to every 100 females. In countries, however, where polygamy prevails this relationship of male to female births is reversed, for polygamy produces



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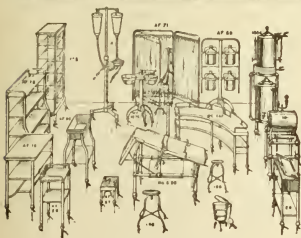
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about two female births to every one male. This relationship corresponds closely with that noted as a result of twin conceptions.

Judging from his own clinical facts and experience the author is convinced that the production of twins in the human female is not a chance affair, and has nothing to do with the deficiency of lime or potash or soda salts in the blood or generative tissues of the mother, for it is well known that deficiency of these salts so alters the sensitivity and irritability of the Fallopian tubes and uterus that well-marked symptoms make their appearance therefrom and abortion is apt to ensue. If, therefore, twin productions were in any way associated with deficiency in the amount of calcium, or potassium, or sodium in the maternal blood, twin production would more commonly result in abortions than they do.

Brill's Symptom-Complex, Typhus, and Manchurian Typhus.

Friedman read a paper on this subject before the N. Y. Academy of Medicine. He said that Dr. Brill had described a disease, infectious, of unknown origin and unknown pathology, characterized by an incubation period of four or five days, a period of continuous fever, accompanied by intense headache, apathy, and prostration, a pruritus and extensive erythematous maculopapular eruption, all of about two weeks' duration, whereupon the fever abruptly ceased either by crisis within a few hours or by rapid lysis within three days, when all symptoms disappeared. Brill was right in stating that that this disease was often taken by New York physicians for typhoid and this interpretation was incorrect. Neither did the disease in question have anything in common with the group of paratyphoid diseases, as was confirmed by the agglutination reaction in both instances. Brill in differentiating his symptom-complex from typhus fever said: "If it had been proved that typhus fever had lost its virulence, that it was constantly present in a community, that it was not communicable, that when it was present epidemics of it did not occur, and that it was no longer a grave and fatal disease, than the resemblance of the symptom-complex to this malady might be admitted." But Brill though that with the description of typhus as the "great masters" had taught it and as he had seen it such a conception would be unjustifiable. Brill had failed to acquaint his readers with the view of modern or recent authors who had observed cases of typhus fever while possessing all the advantages of medical progress in differentiating other diseases from them, advantages which were absent in the times of "the

great masters of medicine." The writer was in active practice in western Russia for six years, during which time he had the chance to observe three epidemics of typhus fever and constantly was sporadic cases of the disease. The more the writer read Brill's descriptions the oftener he listened to discussions of the theme, the more inclined he became to identify Brill's disease with typhus fever. The fairly sudden onset of the affection, the fever curve, the the duration of the illness, its termination, the nature of the eruption, the time of its occurrence, the intense headache, the relatively frequent occurrence of herpes labialis, the rapid convalescence, the occurrence of the disease in patients who had previously had typhoid fever, the frequent enlargement of the spleen, the complications involving the respiratory tract, all these the writer had seen in authentic cases of typhus fever occurring during epidemics and independently of them. Brill emphasized the intense headache which dominated the clinical picture; other observers dealing with typhus fever had laid stress on this point. To the writer this was one of the most striking features of typhus fever as he had observed it. In regard to the skin eruption the writer had seen cases of the maculopapular type, but likewise other cases showing a roseola and petechiæ, or petechiæ alone or roseola alone. Intestinal complications such as frequently occurred in typhoid fever had not come under the author's observation. Brill had stated that typhus fever did not occur in the summer, but this statement was only partially correct; whenever there was an epidemic in the winter sporadic cases occurred the following summer. The writer had seen a repetition of typhus in the same individual. Typhus was endemic in many districts of Russia, so that sporadic cases were of constant occurrence there. In many other districts where hygienic conditions were very favorable typhus fever was but little known, and if sporadic cases did occur they were of mild character. When sporadic cases running a mild course occurred in large cities they were usually not recognized, or were designated as "uncertain kinds of typhus." Typhus was also endemic in other countries. Virchow assumed that the endemic typhus of the Slav led to the epidemic outbreak in Berlin in 1867-68. In Edinburgh typhus was practically endemic at one time. In Ireland, Italy, and Bohemia the affection was likewise said to be endemic. De Arellane stated that typhus fever was not endemic in the capital of Mexico, but was always present in a very extensive zone in the Republic. An epidemic in Edinburgh in

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1899 proved that after eighteen years of immunity an epidemic might occur. From numerous similar instances they might conclude that in a community typhus might be present for a long time without leading to an epidemic. Dr. Friedman reviewed the history of the epidemic of typhus in New York and stated that the mortality of typhus epidemics had considerably decreased through improved hygienic conditions and modern sanitations. The mortality of typhus fever in hospitals and private houses was not appalling, ranging from 6 to 9 per cent. In his sporadic cases there was rarely a death. Dillingham gave a description of "socalled typical cases" of typhus and if they were carefully analyzed and compared with Brill's cases the identity would be apparent. The fact that mostly Hebrews were affected among Brill's cases must be remembered; this race was usually but mildly affected by typhus. The same had been shown to be true of the Arabs. Time alone would decide the question of properly classifyiny the symptom complex so ably observed and described by Brill. In the meantime it did not seem to the author to be the part of wisdom to retain his nomenclature of a "disease of unknown origin," but rather call it New York typhus, just as the typhus of Pekin and of Manchuria had been named. This would go far in calling the attention of physicians to the clinical picture concerned and, moreover, not connote something surely rare and unusual. The name typhus need cause no panic for it was no longer equivalent to the terrifying news "Hannibal ante Portas." Modern conditions had robbed this scourge of much of its terror.—Medical Record.

The Pupill and its Reflexes in Health and Disease.—Woodroffe (Dublin Journal of Medical Science) observes that the nor-

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mal size of the pupil is the result of the well balance action of various forces—the action of the third nerve in causing contraction or the sphincter, the sympathetic in stimulating the dilator muscle, and inhibiting the action of the sphincter as well as determining the amount of blood in the numerous bloodvessels of the iris; and, lastly the passive action of the elastic fibres in the iris must not be overlooked. White light is the chief stimulus for contraction by external conditions. Sensitive stimuli, such as touching the skin on the side of the neck, loud noises in certain people, all cause a dilatation of the pupil. For these reflexes the sympathetic is largely responsible, although the exact explanation is as yet undecided. Psychical stimuli in many produce dilatation of the pupil, as is often observed in cases of sudden fear, anger, or the reverse emotions. Again, the extreme sensitiveness of the pupil is seen in the dilatation occurring with deep inspiration and expiration—a result probably depending on the carbon dioxide content of the blood and the stimulation of the pupil dilating centres thereby. The influence of the fifth nerve on the iris is a matter of considerable dispute—some attributing to fibres of the sympathetic in the fifth nerve the effects supposed by others to be due to the nerve itself. The drugs used in diseases of the pupil he divides into two main groups, mydriatics and meiotics according as they cause mydriasis or dilatation or meiosis or contraction. Atropine—the best known of the former—acts by paralyzing the endings of the third nerve in the sphincter, and in addition, it is stated by some, stimulates the pupillary branches of the sympathetic. Cocaine causes mydriasis only by acting on the sympathetic, the dilator and vaso-motor fibres of which it stimulates. Of meiotics, eserine is the most widely used, and is in its action a direct antagonist of atropine, stimulating the endings of the third nerve while paralyzing those of the sympathetic. Morphine, pilocarpine; and muscarin are similar in their effect. A subject of wide and general importance is the effect on the pupil of those drugs which produce anaesthesia, and this pupillary reaction is of immense aid in their administration. Thus the dilatation in the first stage of chloroform anaesthesia is due to a stimulation of the pupil dilating centre, the second stage marks the onset of paralysis of the pupil contracting division of the third nucleus, while the succeeding dilatation tells the observer paralysis of this centre has supervented, and the final wide dilatation spells bulbar paralysis and imminent danger.

Wassermann Reaction Not a Guide for Treatment of Syphilis.—Plehn (Berliner klinische Wochenschrift) has had the serum of 200 patients at the Urban general repeatedly examined with the five various technics for the complement-deviation test. In order to ascertain the diagnostic reliability of the Wassermann reaction. The vials with the serum were only numbered and the serologist knew nothing of the patients yielding the serum, not even whether they had a history of syphilis or not had taken treatment. The results confirm the possibility that syphilis may become permanently cured with no, or very slight treatment. Among the forty two giving a positive Wassermann reaction repeatedly, nine had reached an advanced age without ever having had any manifestations of their syphilis after the very first, which was also the case in fourteen others who had received what would be regarded as very inadequate treatment; some in this group gave a positive, others a negative reaction. Neisser has stated this year that the spontaneous recovery of syphilis is an extremely rare occurrence, but Naunyn has asserted that it generally dies out of itself in most cases, even without treatment—although he is the last one to rely on this—and the experiences related here by Plehn demonstrate that a clinical cure with little if any treatment occurs oftener than is generally recognized. This fact explains the positive reactions obtained in so many persons who are supposed to be entirely free from a history of syphilis. On the other hand, the Wassermann reaction may become negative while florid manifestations of syphilis persist or develop afterward. The fact that the reaction has become negative does not therefore signify that the patient is actually cured; neither is it always possible, even with the most energetic treatment, to transform a positive into a negative reaction or prevent tardy syphilis of the nervous system especially the parasyphilitic affections with and without a positive reaction. Plehn adds that the Wassermann reaction gives no information as to the infectiousness of the case. The reaction may persist positive for decades while the patient is free from the slightest clinical symptom; thus a positive reaction is no proof of the syphilitic nature of clinical manifestations developing during this period, which may or may not be of a syphilitic nature. On the other hand, a negative reaction is no proof that they are not syphilitic. Plehn reiterates that the Wassermann reaction is only one symptom of syphilis, and, like other symptoms, it may be present or not, and it may be encountered in conditions other than syphilis, as with neoplasms and lead colic.

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Plehn also has had occasion to deplore the depression produced by knowledge of a positive reaction in persons clinically normal. One young man recently committed suicide on this account and necropsy failed to disclose the slightest trace of syphilis. A syphilitic with a negative reaction may yet speedily die of brain syphilis, while others with positive reactions may live to 77 and over without symptoms. He does not dispute the value of the test in certain dubious conditions, but regards the interpretation of the test as a matter involving great responsibility.

Prevention of Nephritis.

In scarlet fever, diphtheria, typhoid and other infectious diseases, it is a commonplace of practice to watch the urine and to take every precaution against nephritis. The discovery of the peculiar property of the chemical combination, $C_6H_{12}N_4$, to give off formaldehyde and other obscure but effective antiseptic agents, at body temperature only, was one of the most epoch-making in the history of therapeutics. Cystogen, a refined preparation of the afore-mentioned chemical, has been extensively prescribed for more than fifteen years and has been preferred to other products by many physicians on account of its uniformity of action and non-irritating property. More recently, Cystogen-Litha (cystogen, 3 grs. and lithium tartrate, 3 grs.) in the form of an effervescent tablet has been given preference; one of these tablets dissolved in a glass of water, makes at once a proper dose and menstruum, to be taken at meal times or between meals, as the prescriber may direct.

Opsonic Index in Tuberculosis.—Bragil (British Journal of Tuberculosis) says that the indications which opsonic estimation affords in diagnosis depend not only on the low index obtained in many cases, but also upon the fact that in infection the oscillations of negative and positive phase produced by inoculation are much more pronounced than in health, and this applies both to autoinoculation and to various injections. Thus, if after auto-inoculation by passive movement of a doubtful hip-joint the index to the tubercle bacillus shows a considerable fall, followed by a pronounced rise, one may conclude that we are dealing with a tubercular infection. As an instance of its utility the following cases is cited:—A symmetrical hydrops of the knee-joint in a child was a considered on clinical grounds to be syphilis, but the application of an Esmarch's bandage so disturbed the opsonic index that the diagnosis

of tubercle was unhesitatingly made, and was upheld by the subsequent course of the case. In case of multiple infection, where it is impossible to say which of several bacteria is the cause of the symptoms, the value of the opsonic index may be marked. Thus in a case of middle ear suppuration with enlarged cervical glands, it was impossible to determine whether the lesion was due to tubercle or to a pyogenic micro-organism. The opsonic index to the tubercle bacillus and found to be 0.56, that to the suspected staphylococcus 1.0. From this it was inferred that the case was one of tubercular infection, and injections of tuberculin commenced. A pronounced rise of the index followed, and this was accompanied by marked improvement in the symptoms, so that after two months' treatment the discharge from the ear had completely ceased. As a guide in vaccine therapeutics, the opsonic index is of distinct value, especially in relation to the interval between repeated doses, for it has been shown that proper spacing of doses is a matter of great importance. The guidance furnished by the opsonic index is entirely in accord with clinical evidence. Thus it has been shown that in phthisis the temperature bears an inverse ratio to the opsonic index, and that the associated pulse rate follows the same rule. It has also been demonstrated that an inoculation which has a beneficial effect is accompanied by a rise in the opsonic index, whereas an overdose of tuberculin causes fever, headache, malaise, and loss of appetite, and that these symptoms are accompanied by a fall in the opsonic index. The opsonic index is also of value in the prognosis of tuberculosis. After a period of inoculation or sanatorium treatment, it is often extremely difficult to determine when the patient may be considered immune. Here the opsonic index furnishes information available from no other quarter, for it is only while infection persists that marked oscillation of the index occur, whereas when immunity is attained it becomes normal and remains steady. The fact that in general tuberculosis and other acute infections death may be preceded by an abnormally high index has proved a stumbling-block in the acceptance of the opsonic theory. But the high opsonic index in these cases simply represents a final effort of one of the protective mechanisms, which is ineffective owing to the overpowering of vital centres by toxic already formed. What is here wanted in an anti-toxin to come to the aid of another protective mechanism, which has broken down owing to the acuteness and severity of the attack.

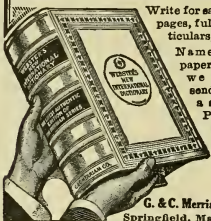
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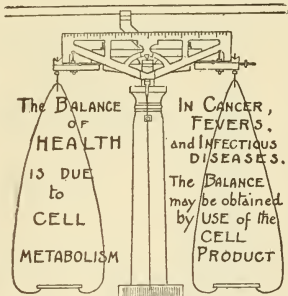
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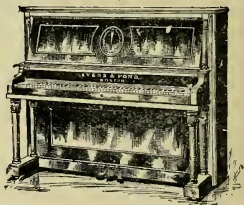
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**MEDICAL SOCIETY OF THE STATE OF NORTH
CAROLINA.**

Next Annual Meeting at Hendersonville,
N. C. June, 1912.
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Lenoir, N. C.
D. A. Stanton, M. D., Sec.,
High Point, N. C.

NEW MEXICO MEDICAL SOCIETY.

Annual Meeting at Las Vegas, N. M.,
(date not yet decided.) 1911.
Dr. R. C. McBride, D. Las Cruces N. M.
Secretary.
F. B. Test, M. D., Prest, E. Las Vegas, N. M.

SOUTH CAROLINA MEDICAL ASSOCIATION.

Annual meeting at Columbia, S. C.,
April 20, 1912.
Edward A. Hines, M. D., Sec.,
Seneca, S. C.
J. W. Jervey, M. D., Pres.
Greenville, S. C.

TENNESSEE STATE MEDICAL ASSOCIATION.

Annual Meeting at Nashville, Tenn.,
June 11, 1911.
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146 8th. Ave., Nashville, Tenn.
John A. Witherspoon, M. D., Pres.,
Nashville, Tenn.

MEDICAL SOCIETY OF VIRGINIA

Annual Meeting at Richmond, Va. Oct. 24-
27, 1911.
P. A. Irving, M. D., Sec.,
Farmville, Va.
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[CREOSOTE PHENYL-PROPIONATE]

Proposote

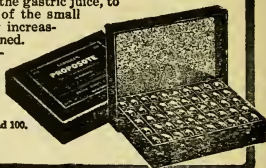
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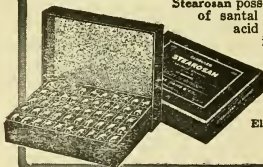
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VOLUME 64.
NUMBER 6

Charlotte, N. C., December, 1911.

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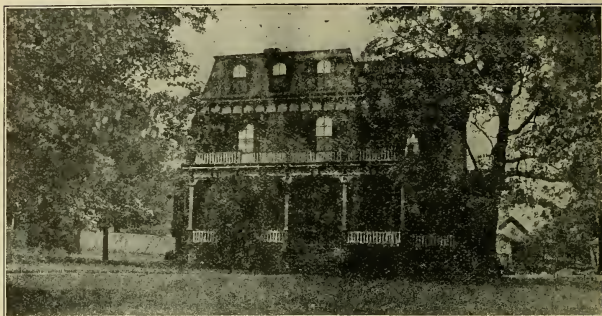
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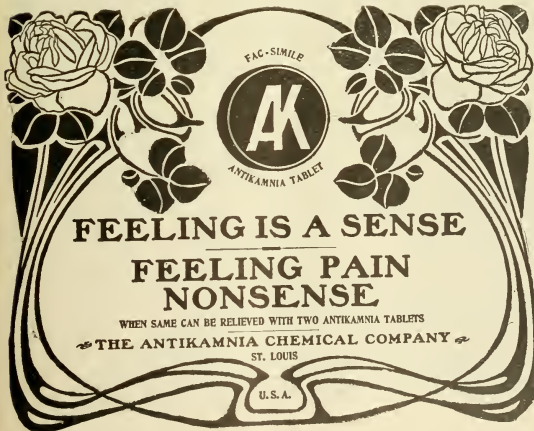
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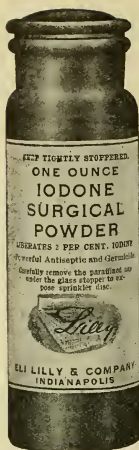
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The Charlotte Medical Journal

VOL. LXIV

CHARLOTTE, N. C., DECEMBER, 1911.

No. 6

Pilo-nidal Sinuses.*

By Henry Norris, M.D., and M. H. Biggs, M.D.,
Surgeons to the Rutherford Hospital,
Rutherfordton, N. C.

Pilo-nidal Sinuses, Sacro Coccygeal Dimples, Foveae or Sinuses, are congenital malformations varying from a dimple in the mid-line directly over the sacrum to well-formed sinuses in the same region, lined with true skin, containing sweat-glands and hairs. They excite interest only when the infolding of the skin is deep enough to form a sinus. The broken down epithelium, detritus and hairs have difficulty in escaping, so that a retention cyst is formed, or as is more common, the sinus becomes infected and an abscess develops. Peck, in the American Practice of Surgery, says: "That from twenty to thirty per cent. of all infants examined at birth, present in the sacro-coccygeal region a very distinct dimple or depression of the skin, or an actual orifice, which may vary in size from a pin-point to an opening large enough to be mistaken for the anus. Of a large number of adults examined, between four and five per cent. presented a similar condition." Examination of the tissue removed will show pavement epithelium and sometimes sebaceous and sweat-glands, and the very character of the sinuses make it probable that they are the result of the infolding of skin, though some observers believe that the sinuses represent unobliterated portions of part of the neurenteric canal.

When a cyst has formed it will be found to contain cheesy material, epithelial cells, hair and fat droplets. The deeper portions of the sinus will invariably be found adherent to the sacrum or coccyx. The opening is usually in the middle line from one to three inches posterior to the anus, though there may be two or three more openings, and after infection has occurred a new one may be found at some distance, as in case No. 8 in this report.

The two conditions with which pilo-nidal sinuses are most apt to be confounded are fistula in ano and necrosis of the coccyx or sacrum. Syphilis and tuberculosis can readily be excluded. The discharge from the sinus is not offensive like that of fistula in ano, and the probe will not pass to the rectal mucosa, while the absence of exposed or carious bone makes the differential diagnosis of the latter condition easy. While

the condition is a simple one and never gives rise to any symptoms except when the sinus becomes infected and inflamed, it is surprising how hard they are to make heal; to cure them every vestige of the sinus must be completely removed. Any sort of medical treatment is utterly useless as a curative measure. A grooved director should be introduced to the bottom of the sinus, and retained in situ while a careful dissection and complete excision of the sinus walls is made. The wound can then be closed by catgut sutures with or without drainage and a firm compress should be applied.

In suppurating cases, carbolic acid followed by alcohol may be used after removal of the sinus walls and curettage; the wound then being packed and allowed to heal from the bottom. Primary union may be obtained in clean cases if the region has been well prepared and if hæmostasis has been made absolute, and we should make an effort in all except the most badly infected cases to promote prompt healing by suturing the operative wound, even though a portion of it may break down.

The following is a brief report of a few typical cases:

Case 1.—O. D., male; age 25. Admitted 7-15-'07. For several months patient had had some discomfort and a slight discharge. In this case the sinus was quite short with the opening lower than is usual. Complete excision, suture, and primary union. Discharged 7-24-'07.

Case 2.—T. C. H., male; age 24. Admitted 8-11-'08. Referred by Dr. Lee, of Lattimore, N. C. Patient never had any symptoms from the sinus till quite recently, when it became infected. Median opening of a sufficient size to admit a groove director. Complete excision and partial closure of wound. Discharged 8-18-'08, with healthy granulations, which healed in the course of a few weeks.

Case 3.—E. M. D., male; aged 18 years. Admitted 5-19-'10. Referred by Dr. E. B. Harris, of Rutherfordton, N. C. Patient presented a suppurating sinus, which had caused him annoyance for several months. Median opening; excision and partial suture. Discharged 5-29-'10. Healed by granulation.

Case 4.—S. C. H., male; aged 27. Admitted 10-11-'10. Gave history covering about two years of several attacks of pain and swelling. Relieved spontaneously by rupture of small abscess through a median

*Read before the Rutherford County Medical Society, Nov. 9th, 1911.

opening. Sinus on admission was suppurating freely and adjacent tissues were infiltrated three-quarters of an inch on either side. Complete excision, partial closure of wound. Discharged 10-22-'10. Wound healed promptly.

Case 5.—R. B., male; aged 32. Admitted 11-21-'10. Referred by Dr. Lee, of Lattimore, N. C. This patient had been operated upon nine years previously at a hospital in Baltimore, and the sinus had never healed. An extensive dissection was made, wound swabbed with carbolic acid followed by alcohol, then sutured with catgut, a small rubber drainage tube having been introduced. A portion of the wound broke down, necessitating packing, and he was discharged with healthy granulation tissue rapidly filling the wound. Dr. Lee dressed him several times, and reported an entire cure.

Case 6.—W. J. M., male, aged 32. Admitted 1-9-'11. Referred by Dr. George Oates, of Grover, N. C. Patient has had a number of small abscesses. Sinus extremely tortuous and unusually long. An effort was made to completely excise it which failed, as he did not heal up after he left the hospital, returning 2-8-'11 for another operation. Another extensive dissection was made, which also failed, and at the present time there is still a minute sinus which occasionally discharges a small amount of thin pus. This has been the most difficult case with which we have had to do, and the failures can in part be accounted for by the depth and extent of the sinus and its firm periosteal attachment.

Case 7.—B. A. H., male; aged 20. Admitted 10-8-'11. Referred by Dr. George Oates, of Grover, N. C. Patient had known of the existence of sinus for some months. On admission he presented a good sized abscess which was excised in its entirety and the whole cavity was then thoroughly swabbed with carbolic followed with alcohol and packed with gauze. Discharged 10-15-'11 to be dressed by Dr. Oates, who reports him as going on very well.

Case 8.—C. M., male; aged 21. Admitted 10-24-'11. Referred by Dr. Hunt, of Casar, N. C. Patient has had discharging sinus for a long time and some months ago an abscess formed and discharged spontaneously in the right gluteal fold. Extensive dissection and complete removal of sinus. Suture without drainage. Upper portion of wound broke down. Discharged 11-3-'11, to be dressed by Dr. Hunt. The sinus in this case measured $5\frac{1}{2}$ inches and the walls were unusually thick and contained numerous hairs.

The Cure of Inebriates.

By T. D. Crothers, M.D., Supt. Walnut Lodge Hospital, Hartford, Connecticut.

It is the common opinion that the subsidence of the desire for spirits is the cure, and the disease is simply nothing more than an intolerable thirst for spirits, generally for its effects and rarely for its taste.

Acting on this supposition, the quacks assert that they have found some drugs or combination of drugs, that will not only destroy the thirst for spirits, but will permanently prevent its reappearance.

For over a quarter of a century great specific cures, great in the magnitude of their assumptions, have prevailed. The gold, and other, cures have been known and talked about, in almost every section and in every neighborhood. Occasionally someone has tried these treatments, and becomes a most enthusiastic supporter and advertises its claims in a most extravagant way.

After a time these very officious promoters disappear, or else relapse into silence and never mention these means again. When some of the more officious of the irregulars come forward with their specifics, pressing them upon the regular profession, they are told that no matter what drugs they possess, the subsidence of the drink craze is an exceedingly simple matter, and one that occurs from a great variety of means, and if this is all they have to offer, it is a failure.

In the course of many years, I have often observed the intense chagrin and disappointment of the specific promoters when told that there are a dozen remedies that will effectually stop the drink craze; that the patient will go away with disgust for spirits, but the return of the thirst is absolutely certain in the majority of cases. It will be apparent to every observing physician that the desire for spirits is simply a call for relief from fatigue, depressed states and excitement. Mentally it is for the purpose of giving greater vigor to the mind and body, or to attain some ideal state which they do not possess, or to confirm a theory that alcohol gives new force and power, not possessed before.

A very prominent judge is a total abstainer, except at the times of his college reunion, or at banquets of the Grand Army. Then all at once the desire for spirits will become so overwhelming that he drinks to stupor. On all other occasions he has no thirst or taste for spirits, but rather the opposite. He appealed to his family physician for help and through my advice took large doses of quassia four times a day, together with strychnine and atropia in very small doses, two or three days before the banquet. He was delighted to find that he had no

desire for spirits, but rather a disgust for it, and for the first time in many years, he refused all offers to drink.

Another man, who, after periods of great political excitement, went off and drank for two or three days, was given the same treatment with the same results. There was no specific treatment in this, nor any promises of cure; simply a diversion of energies and suppression of the morbid craze, which sought relief in narcotics.

The various methods used to stop the desire for drink are so numerous, comprising almost every condition and surrounding, that one would think that the drink craze ought to be a thing of the past; and if these measures were curative, inebriety and alcoholism would disappear in a very short time.

In reality many of these means, urged so enthusiastically, increase the degeneration and make the craze more intense for the future, although for the time being they promote abstinence.

Take the prayer-and-pledge cure which seems so successful in many instances. The same way with the gold cure specifics. Large numbers abstain and claim to be cured, and yet in a few months they all have relapsed and most of them are worse off, physically, than before.

Notwithstanding this repeated experience, the same means and methods are urged with the same enthusiasm, continually. Even some physicians join in these efforts, and feel justified in claiming that the cure has been effective wherever the patient has been honest, but where he was untrue to himself relapses followed.

All this is a realm of most confusing experience of cause and effect which has not been studied practically and is still in a very empiric stage. There are two distinct classes of cases that suffer from excessive use of spirits. The first and most degenerate is called the alcoholic, because he is literally and profoundly toxæmic, suffering from conditions of cell degeneration.

Such persons are so-called moderate drinkers, using beer, spirits and wine regularly every day. They are never seen intoxicated, and are usually able to go on with their work, but as the years go by, their inefficiency is more and more marked. After a time, such persons come under medical care for a great variety of local inflammations, and are told that, indirectly, these result from alcohol.

Then it dawns on the mind that they should give up the use of spirits. In the meantime they have developed inordinately egotistical ideas of their strength and ability and are ready to defend the use of alcohol as harmless, citing themselves as examples.

In the treatment of such cases, abstinence is usually a temporary condition, unless some very pronounced inflammation follows, which diverts the mind or ends fatally. Cerebral hemorrhage, pneumonia, Bright's disease with so-called rheumatism are the closing diseases of life. Occasionally a case of this kind will recover in a sanatorium and be a total abstainer the rest of his life, but always with a variety of local diseases which it is impossible to break up.

Curing such men by specifics or by pledges and prayers, change of surroundings, and so on, is very rare. The drink thirst may die out, but the sclerosis and other local degenerations continue. Some of these men remain in sanatoriums, taking practically, hygienic treatment. They are all chronic cases. The attempts at restoration are only partially successful, and the injuries, which they have suffered from, are seldom overcome.

The practical fact is that the drink craze dies out of itself, or is destroyed by a great variety of unknown means and measures, but the patient is an invalid ever afterwards, and no one can be sure that the drink craze will not return again.

The inebriate, while poisoned like the alcoholic, has a neurotic basis for his drink craze, either inherited or acquired. In the former a distinct predisposition to seek relief in spirits and drugs and a low vitality with feeble power of resistance to acute infections, is the legacy from his parents. Exposed to temptations from his surroundings and from mental contagion, he very quickly develops a drink craze.

The drinking is of a paroxysmal character, followed by distinct free intervals. Spirits are taken in moderation at first, then to great excess until thoroughly poisoned, and then all desire dies out, and the patient recovers and goes about as usual. First the free intervals cover a long time. Then they become shorter and the drink periods more intense, recovery following with equally intense desire to be an abstainer.

Treating a man at the close of his drink period with any sort of remedies or means will result in recovery and intense desire to live a different life. The paroxysm is self-limited and stops in any sort of surroundings under any conditions. This is not a cure for the disease; which like epilepsy, is likely to break out again. The explosion may be delayed, but unless most vigorous constitutional treatment is carried out along rational lines, the craze will develop again.

It is here that the quack curers fairly revel in so-called results and experiences. The claims they make, on the statements of patients, seem to indicate a most radical change and permanent breaking up of the

drink craze. The three days treatment, in which a man is put to bed and purged and vomited and given all the spirits he can drink, is a very clever combination of physical and psychical means. The patient of course is intensely disgusted with spirits, in all forms, but later when his vigor returns, he is tempted to try the experiment of finding out whether spirits can be taken as before. Then a great disillusionment begins.

He finds that the taste and effects of spirits have not diminished. If anything, they seem to be more pleasant and his relapse is certain. This outlines what happens in nearly all cases. The faulty training, faulty conceptions of the conditions that have developed, leave him weaker, and his future drinking is worse than ever.

Such men have localized inflammations, palsies and pronounced diseases, which end fatally as a rule. The periodic, or paroxysmal drinker, usually dies from pneumonia, which is literally a paralysis of the pneumogastric nerves, beginning in the brain centers; or he suffers from cerebral hemorrhage, which may end fatally or result in partial palsies of different parts of the body. Other diseases are common. Mania and different forms of dementia are also very prominent.

The records of insane asylums show that from 10 to 60 per cent. of all inmates of such asylums have a history of the use of alcohol, which is undoubtedly an exciting cause. In the treatment of such patients, the demand for alcohol is a symptom, as well as a cause; and its removal does not diminish the disease.

This is confirmed by the legal treatment of inebriety in which thousands of persons in jails and prisons, are forcibly made to abstain from spirits for a time. On regaining their liberty the desire for spirits breaks out with as much intensity as before. This is conclusive evidence that removing alcohol is not the cure, something more is required.

The practical fact is that each case is a law to itself and cannot be treated in any routine way. There can be no specific drugs or treatment that can be used generally, but means and measures must be adapted for each particular case. One man needs correction of diet, excessive surface stimulation through the skin by baths; another requires out door life, abundance of oxygen and exercise; a third needs to be lifted out of his surroundings and given prolonged rest and change; a fourth needs exclusive occupation and diversion; and so on, through the list; adapting the means to meet the requirements and studying the necessities and demands of each person.

An experience, extending over a long period of years, shows that both the alco-

holic and inebriate are restored and cured, in quite a large proportion of cases. As in other diseases, the earlier the means are used in the history of the case, the greater the probability of permanency in the cure. In the best institutions, each case is treated according to the conditions present, and the patient is trained to understand his condition and very actively co-operate with the physician.

Constitutional and eliminative measures, comprising carefully chosen surroundings with psychical treatment and a great variety of means and measures, adapted to meet the requirements of each case, are found to be most effectual. The removal of alcohol and the subsidence of the drink craze are only preliminary in the treatment.

A long course of steady appeals to the diseased organism and the faulty brain are requisite to bring it up to a standard approximating the normal. This is not accomplished in four weeks, but requires from four to twenty months to secure results that are at all permanent. The patient must grow out of his condition and must grow into a new recognition of himself and surroundings and a new self control. He must become trustful and dependent on the family physician, who if he is a wise man, will give counsel on the safest course for the present and future.

The disease from which the patient is suffering, is acute and chronic degeneration or ageing. Every sense or functional activity is lowered and put upon a strain, and the capacity to understand this, and provide against it, is diminished to a degree that is not recognized by the patient, and can only be seen by the family physician after careful study of the conditions. The patient's estimate of himself and his condition is always misleading, as much so, as that of an insane man, concerning his condition.

If the inebriate or alcoholic would find some reliable medical adviser, and trust him explicitly, the chances of escape would be very good indeed. The failure to do so is always more or less fatal. Practically all such persons should have hospital treatment at the start for a few months, then home and office treatment for many years. If the physician is given full opportunity of control and his judgment followed, the probability of cure is very great and very hopeful. The present treatment in the hands of quacks and irregulars, with proprietary medicines and with desultory efforts of all kinds and descriptions, of necessity results in failure. A better day is coming when the profession will recognize this new field of practice and occupy it on the broadest scientific levels.

Some Errors Made When Sending Consumptives to Health Resorts.

By John Roy Williams, M. D., Hendersonville, North Carolina.*

Much has been said and written about this subject; so much, in fact, that it seems almost unnecessary that further time and labor be devoted to the subject. But to one living in a health resort and specializing in this disease, it is painfully evident that enough has not as yet been written nor said, or else that greater emphasis is needed in the saying. It is indeed distressing to see the number of consumptives who come to health resorts with ideas firmly fixed in their minds by the physician at home, which ideas slowly lead the poor sufferer to the very brink of the grave before he finds out the fallacy of them.

One of the most grievous of these mistakes is sending the consumptive to the health resort without informing him of the nature of his disease. To tell him he is suffering from malaria, stomach trouble, bronchitis, or some such ailment, is being unfair to the physician in the health resort into whose hands the patient passes. He becomes skeptical at once, is slow to accept the truth; he delays, and frequently to such extent that a cure or arrest of his disease is defeated.

Many are sent with just that sort of diagnosis; and are told to take plenty of exercise, outdoor life, eat plenty of good food and that soon he will be alright. He has not even been told to control the exercise by keeping a watch over the temperature and pulse, the nutrition and strength, but has simply been instructed to take plenty of it. He does so, and finding that he does not improve, and lacking in the proper information, concludes he is not taking enough exercise; so he increases it to the limit of physical endurance, and still the disease grows worse. And in the meanwhile he has been filling the stomach with any and all kinds of foods, whether they are properly suited to the individual case or not.

Having been told that his trouble is only "bronchitis," he has been going about indiscriminately expectorating bacillus-laden sputum. Many have been careless even in their own bed room, re-infecting themselves and endangering every one who may enter the room to the infection. Others, believing that the trouble is "malaria," improvement not following as rapidly as anticipated, they go to the druggist, get their quinine and expect soon to be free from the ailment. Some are given the opinion that they are only "run down from over-work," and that a few weeks rest in the invigorat-

ing climate of this or that resort will re-establish their energy. They try it, and if it does not quickly relieve that "tired feeling" of which they constantly complain, they resort to sundry and divers means of restoration which their untrained skill(?) suggests, and, sad to say, stimulants of all sorts, one at a time or all at one time, are resorted to. How few of those misguided individuals ever recover.

Frankness is what the consumptive needs; and his condition is such as to demand it. His disease should be fully explained to him. He should be told that the consumptive's condition changes almost daily, and that he needs constant and skilled watching by one who is specially trained in the guidance of such cases. It may cause him a little anxiety, but if it is tactfully imparted, it will be of short duration, and will be the best thing that can be done to direct him to a proper course to pursue in order to recover.

He should not be given a written dietary when he leaves home; nor should he be sent away with a miniature drug store, with a label on each bottle and package and directions as to how and when to take it. The physician cannot know if the patient should take a dose of this or that medicine today, he being fifty, or a hundred or more miles away. The physician cannot possibly know his true condition. Nor can the physician know anything about the patient's digestion, and the dietary with which he left home may in no particular be the proper one for him.

The physician at home can know nothing about the temperature or pulse from day to day; and if he did, he could not know the conditions effecting it. Even if the patient should write that the temperature was so-and-so, and that the pulse was such-and-such, how could the physician at home possibly know the cause of the disturbance? He cannot know if it is due to diminished elimination by expectoration, or by the bowel, or by the kidneys; or if it is due to an extension of the disease. Certainly, in the vast majority of cases, the patient does not know, and cannot inform the physician at home. Not knowing, how can the physician at home direct the patient intelligently? At most, all the home physician can know is the condition the last time he examined the patient.

Merely sending the consumptive to a health resort where better climatic advantages may be obtained, with a few instructions which may have been proper for him in the past, but which may be entirely unsuitable for him under the changed conditions, will not guarantee his recovery. Upon an exact application of therapeutic meas-

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ures, a careful and skilled observation of a score of details, and a continuous watchfulness on the part of a competent physician, depends the successful treatment of the consumptive. Nothing is more foolish than to send the consumptive away for weeks or months, unless he is placed in the care of a physician experienced in the guidance of such cases. He will often need counsel, encouragement, intelligent support; and he will need advice which only a physician familiar with the local conditions is capable of imparting. First make definite arrangements for his care and keep before sending him away. Instruct him to carefully observe the instructions which will be given him by the physician who is to look after him. Warn him against being turned aside by the advice of solicitous (but untrained) friends and acquaintances. My personal experience in Asheville, in Greensboro, and here in Hendersonville has been such that too frequently the consumptive is led away from help and health by some friend(?) who "has an axe to grind," or by some misguided consumptive who is keeping his spirits and hope keyed up by the use of stimulants or some patent nostrum.

The consumptive requires minute instructions regarding rest and exercise, diet and fresh air. Such instructions can be imparted only by the physician who is in daily contact with him and who is familiar with the changes in his condition. But it is dangerous to turn him loose with instructions to cover any great length of time, for conditions change so quickly and frequently in each individual case that no definite instructions can be given for all times, without amendments from time to time to meet the changed conditions. To use the language of Cornet, "To leave the patient to himself is against the fundamental principles of phthisiotherapy, and imperils the success of the entire trip."

Yet, that is so often done by some physicians. What can be the reason for it? Is it to save the patient the physician's fees? If so, in what way will that be inductive to a recovery from the disease? Is that the patient's best chance for a recovery, and is not "the best chance of recovery" the patient's due? Is it best to save him a little money at the expense of competent advice and skilful directions? Or is it that it is believed that the doctor cannot be of assistance to him? When the physician sends the consumptive to the health resort with instructions to "leave the doctors alone", he has there and then informed the patient that doctors are of no avail, and has placed the stamp upon himself that he is incompetent to advise him. And when the final struggle comes and the patient is passing

beyond medical aid, he will realize the error of such advice; and in the passing, will go with a regret in the heart for ever having known the advisor. Oh, physicians, who so faultily advise the consumptive, cease this needless sacrifice of human life!

There are some mistakes which are too often made by some physicians in selecting the physician to whom to refer the consumptive. Some select a physician because he is a graduate of the same school; others because he is a personal friend. But it should be remembered that neither school of graduation nor personal friendship guarantee ability. Proficiency in handling these cases depends more upon personal experience with the disease, and the post-collegiate training in this special line of work.

The physician to whom the consumptive is referred should have a comprehensive knowledge of the disease, and be possessed of a thorough understanding of the psychology of tuberculous people. These two qualities are indispensable if he wishes to have any degree of success in the treatment of this disease. Tuberculosis is a many-sided disease, affecting all of the leading systems of the body, the respiratory, circulatory, digestive and nervous systems in particular, requiring that the specialist have a comprehensive understanding of these systems and the conditions affecting them. It should be learned beforehand if the physician to be chosen is so qualified. Personal feelings and sentiments should be put aside, and the qualifications of the physician to whom it is desired to refer the case should be the guide.

The specialist must be candid with the patient, and possess sufficient tact and judgment to command confidence. It is not every physician who knows a great deal of tuberculosis, that is successful in the treatment. He must be able to exert an influence and control over the patient; and there is no disease requiring the exercise of such ability as does tuberculosis. He must be firm at all times, exacting and commanding when necessary; yet he must be kind, gentle and sympathetic, but always to such degree as not to lose control of the patient. If he has not these qualifications, he will not be able to get and hold the co-operation of the patient which is necessary for the successful treatment of the case. So in referring such cases, care should be had to select such a physician if possible; leaving aside family relationships, personal friendships, collegiate associations and sentimental considerations. This is too often overlooked, and has been accountable for many failures.

The physician should never send the consumptive away with a statement as to how

they should be treated when they reach their destination. The physician to whom the case is referred will have his own way of treating the patient, which may possibly not be any better than that of the home physician; but he will understand it better, and doing so will probably get better results. If the patient has been advised against it, already there has been removed all probability of success. The patient, under such circumstances, will rebel, fail to co-operate, withhold his confidence and will soon lose faith in the entire profession. By such instructions, more will be done to hasten the death of the patient than any other one thing that can be done. In the first place the home physician's method has been a failure, or there would have been no need to send the patient away; so it should not be expected that a treatment which has been a failure should be continued by the physician to whom the case is referred.

Many consumptives are sent to health resorts with instructions to "leave the doctors alone, depend on climate, fresh air, good food, rest and exercise for a recovery, and that there is no drug which has a specific action on the disease." "That at the most he may need a physician to examine him occasionally, and tell him how he is getting along." I have frequently refused to even examine such patients, frankly telling them it is a useless expenditure of their money and a waste of my time; for the mere telling them what their condition is once a month will not aid them in getting well.

The consumptive must keep in close association with his physician and follow minutely his advice, and should report daily for further advice and inspection. While it is true we do not use much medicine in the treatment of this disease, there are conditions which arise which certainly require the application of some drug, and require it promptly if the best results are to be obtained. It is the rarest incident that we have a case that does not require the application of some medicinal interference. Also, if they do not see their physician often, they tell their troubles to their neighbors, and the results are misconception and meddling advice. These patients must not be neglected, and I always refuse the care of them if I am not permitted a daily interview, and more often if necessary. I do this by arranging my fees so that it is no more expensive to the patient to get this daily care. Weekly and fortnightly visits have been relegated to the past, and were largely responsible for many of the failures in treatment in days gone by.

Very often too long delay in giving the consumptive the advantage of better climatic conditions and expert attention is prac-

ticed. The average general practitioner is not equipped to treat tuberculosis. There is a lack of time in which to give the disease the necessary amount of study, and the patient the necessary amount of individual attention. As eminently capable as he may be in the general practice of medicine, with rare exceptions, he is not qualified to properly treat tuberculosis.

Either from a selfish desire to get the fees, or from a self-opinionated frame of mind, these cases are often held on to until the eleventh hour before giving them the advantage their condition is demanding. It has been estimated that the average length of life of the tuberculous subject, treated by the average general practitioner is about four years; while for those treated by the average specialist it is over ten years. These figures speak for themselves and should stimulate the general practitioner to refer his cases early to the better qualified specialist.

These, and many other errors are being almost daily committed by many physicians in their dealings with the tuberculous. They should stop and think about their duty to their tubercular patients, set aside all personal prejudices, friendships and past associations as controlling factors in their dealings with the tuberculous. They should do their duty as their best judgment dictates and place their patients first and themselves last.

And in conclusion I wish to have it assured that I do not write in a spirit of criticism, but solely through my zeal in bringing about a better control of this disease, and in the hope of saving the lives of some which may be lost through delay in giving the patients the care and attention which their condition demands.

Some Suggestions as to Prevention and Treatment of Kidney Lesions and Arterio-Sclerosis.

By R. R. Kime, M. D., Atlanta, Ga.

It is evident to the casual observer, and especially to the physician who uses a microscope, that kidney lesions and arterio-sclerosis are on the increase. For such increase there must be active factors that should be known, and preventive measures should be instituted to curtail, to some extent at least, that increase.

To do this we must investigate two sources, habits of life and diet. While the strenuous life without relaxation has its deleterious effect, I am confident that diet, alcoholics, and tobacco are more serious in their results. These conclusions are drawn from a practical experience extending over a period of several years with an examina-

tion of from five to six hundred specimens of urine a year. The strenuous life with proper rest and relaxation is a minor factor compared to the life of constant worry and nerve tension. It is no uncommon experience for patients to keep up their daily avocation and recover if they will quit unnecessary worry and regulate their diet as to what and how much they should eat and drink.

To me the urine is an index or guide as to progress in most all cases, and when coupled with a record of the arterial tension we can predict with a fair degree of accuracy the progress of the case. While I do not consider the presence of casts as invariably indicative of structural lesion of the kidneys, yet I do not consider casts a normal constituent of urine. Their presence indicates at least perverted function or kidney irritation for which there is a cause. The kidneys are a kind of filter to eliminate toxic elements from the blood and if they are overworked by increased toxic elements in the blood or irritated by concentration of the urine and an increased blood pressure, it is only a question of time until structural changes will develop in the kidneys and blood vessels.

When we know that the end results of digestion, assimilation, and metabolism of certain foods result in increased toxic elements for the kidneys to eliminate, then common sense would dictate to exclude or lessen the intake of such foods, and especially so when they also interfere with digestion and assimilation.

Carnivorous animals in their natural state are usually wild, ferocious, and accustomed to active physical exercise and supply their wants by brute force and destruction. Man, primarily more carnivorous, was ferocious and supplied his wants more by brute force and physical prowess than by moral conception of the rights of others. In that stage his diet was more carnivorous and was best suited to the demands of his active life which rendered him more able to digest, assimilate, and eliminate than we of this day and generation. As man reaches a higher state of mental culture and moral development, he becomes on account of environment more sedentary and should therefore become less carnivorous. By environment and sedentary life and habits he becomes less able to digest, assimilate, and eliminate the irritating substances and toxins of a carnivorous heavy diet. Man, being primarily carnivorous, cannot entirely eliminate that element from his nature and supply his physical demands for best physical development, yet he must eliminate that which handicaps him in his new environment and his mental and moral develop-

ment, else he becomes diseased and degenerates.

It is self-evident to the medical student of this day that alcoholics tend to produce degeneration of the vital organs of the body and leads ultimately to degeneration of the blood-vessels as well as irritation and disease of the kidneys.

The universal use of tobacco is evidently a factor in producing arterial tension, arterio-sclerosis, and kidney irritation.

If more physicians will use the microscope in proper examination of the urine and the sphygmomanometer for blood pressure testing the effect of tobacco, they will see wherein it is a deleterious factor in many of their cases. Lorand in "Old Age Deferred" states: "According to Edgreen about 25 per cent. of cases of arterio-sclerosis is caused by alcohol. But much more harmful in the production of arterio-sclerosis is tobacco." I have seen the arterial tension raised 20 to 30 mm. in a man of sixty years by smoking half of one cigar. He had been a habitual user of tobacco for thirty years and was suffering from arterio-sclerosis, kidney lesion, and high arterial tension. In another case, 38 years of age with high arterial tension, blood pressure increased 18 to 20 mm. from smoking half of one cigar. The third one tested during the writing of this paper, a young man of 22 years with kidney irritation and increased arterial tension, in smoking one cigarette raised tension 10 to 12 mm. and pulse rate 6 to 10 to the minute.

Over-eating, especially after middle age, is a common factor in intestinal toxæmia and frequently results in kidney lesions. A heavy diet of pork, beef, foods fried in lard, coffee, tea, and coca-cola, tend to increase arterial tension, irritate the kidneys, and favor degenerative changes in the blood-vessels. This form of diet combined with the use of alcoholics, tobacco, and constant worry certainly constitute the ideal plan for developing arterial tension, kidney lesions, and an arterial degeneration.

Knowing the facts that are most potent in producing these lesions, good judgment and successful treatment would dictate the exclusion of the same as far as possible, not only in the treatment but in the prevention of these lesions. I cannot but believe that many physicians fail in their duty along this line. Not long since I examined a man past the middle age, well developed, and should have been a stout, hearty, and robust man at his age. I found him with arterio-sclerosis, kidney lesion, and beginning heart complication. He had been previously examined by some four or five physicians and the last instructions were to eat anything he wanted and drink all the

alcoholics he desired. Such a physician should have his license revoked and not be allowed to practice medicine. These are cases that demand proper dieting, improvement of digestion, and assimilation, lessening of intestinal toxæmia, and the establishment of proper elimination which must be kept up indefinitely if we hope to get good results.

The presence of indican in the urine, excessive acidity, casts, kidney epithelium, leucocytes, and total amount of solids eliminated are guides to diagnosis and treatment while their disappearance indicates improvement. Many physicians fail to get the proper evidence from examination of the urine because of faulty or insufficient technique. The specimen should be a half pint, collected in afternoon or evening, not morning; and let stand two or three hours, bottom centrifuged for microscopical examination without which no examination of urine in these cases is complete. Repeated examinations are often necessary to make a diagnosis or note improvement. Albumen is rarely present except in advanced cases. Indican indicates intestinal toxæmia and should be eliminated. I cannot give treatment in detail in this paper but will briefly summarize. Exclude in diet, pork (except breakfast bacon occasionally), beef, waffles, batter-cakes, food fried in lard, coffee (except one cup for breakfast), tea, coca-cola, alcoholics, tobacco if it increases arterial tension. Rigid milk diet is rarely necessary and only in severe cases. Salt used sparingly in severe cases and in cases with œdema. Allow a liberal supply of water not sufficient to overtax the heart but sufficient for proper elimination. Bitter tonics with digestants and disinfectants just before meals. Mild alkaline diuretics combined with iodide potassium in small doses and tongaline, with the addition of a laxative which acts well in many cases if the bowels are constipated. Salol, urotropin, and benzoate soda, each three grains, acts well in toxic, septic, and suppurative conditions. Large doses of urotropin and irritant diuretics are injurious and should not be used. Pork, beef, alcoholics, tobacco, etc., are not essential for proper nourishment of the body. Sufficient proteids can be supplied in other articles of food, the end results and metabolism of which are not so deleterious to the vital organs and tissues of the body. Alcohol is not a physiological food, not strictly a stimulant, its food value is questionable and fraught with such evil consequences that it has no place in the dietary or treatment of kidney lesions nor arterio-sclerosis.

Therapeutic Outlook.

The experimental investigation of cancer is at present mainly occupied with its pathological aspect rather than with methods of treatment, although the latter are the end always kept in view. One result of immediate practical importance is the confirmation afforded to the rationality of the treatment of cancer by radium and the X-rays. Thus Bashford, Murray and Copeman, who find that exposure to radium or the injection of radio active saline solutions sometimes leads to the disappearance of cancer, call attention to the histological identity of the processes whereby absorption is in such cases brought about and those manifested in spontaneous cure, as well as to the corresponding completeness of the immunity which ensues. "There are," says Rown-tree, "undoubtedly many cases in which either a primary malignant growth or subcutaneous nodules secondary to mammary carcinoma have diminished in size or actually disappeared" through exposure to the X-rays. The effect is, he says, probably not due to direct action on the cancer cells, "for we have definite evidence of very special activity of the connective tissues, the tendency of which appears to be the inclusion and destruction of any epithelial elements present. The sequence of events is engorgement, hæmorrhage, connective-tissue proliferation, fibrosis, compression of epithelial cells, and may be summarized as inflammatory reaction with exaggerated repair.

With regard to the prospects of preventive or curative inoculation, it is important to bear in mind the limitations of the results as yet achieved. "There is no satisfactory evidence," write Bashford, Murray and Cramer, "of an induced action on growing vascularized tumors but only one against newly-introduced grafts." We are earnestly warned against the application of any of the results as yet obtained to man until such time as definite effects can be produced upon animals suffering from spontaneous as distinguished from inoculated tumors. One cannot but approve the insistence of our investigators that it is premature to talk about prophylactic or curative serums or vaccines for clinical purposes until full control of the growth of spontaneous tumors in animals has been experimentally achieved. Still the results detailed above justify some confidence of ultimate success. As to the direction in which it is to be sought for the present, I will cite the opinion of the Superintendent of the Imperial Research Laboratories. "Further investigation is indicated," says Dr. Bashford, "in the direction of preventing dissemination of a malignant new growth by enhancing the resistance of the

organism and by endeavoring to take advantage of the negative phase in the proliferation of cancer cells."—*Folia Therapeutica*.

Intestinal Invagination in Children.

Kirmisson gives the symptoms of invagination as pain, colic, suppression of stools and passage of blood mixed with mucus from the bowel. The blood is the most characteristic sign. Examination by rectum combined with abdominal palpation will reveal a soft, movable tumor. The diagnosis should not be hard, since this is a disease of infancy and of strong, healthy children. It is produced by spasm of the intestine pushing one portion of the bowel into another. As soon as the diagnosis has been made a large injection under ether may be tried, and if this fails an immediate operation should be done before gangrene or septicemia has set in.—*Le Bulletin Medical*.

The Standards of Medical Education.

The Journal of the A. M. A., in a recent editorial entitled "The Choice of a Medical School," in the concluding paragraph practically discriminates against all schools of medicine not requiring two years of college work before entrance to a medical college. Exception should be taken to this attitude of the official journal of the national association, on several grounds, but chiefly because no such fiat has been directed by the Council on Medical Education and the Association of American Medical Colleges as yet has made no steps towards so radical a recommendation as the Journal undertakes. We do not question that the desire of all medical educators should be for the best preparation to be had, but we do question the ethics of the discrimination displayed by the Journal as evident in the editorial referred to.

"Of the class A Colleges, twenty-eight are now requiring two or more years of college work for admission. The student will not be making a mistake should he select one of these twenty-eight schools, the diplomas from which are acceptable at present in practically every State of the Union. * * * Disappointed, indeed, will be the student who, after having spent a large amount of time and money, finds in graduation that his diploma is *not recognized in a large number of States*."

The last part of the editorial (which we have italicized) is particularly pernicious in its implied statement of facts. To tell the truth, there are few States which require more than a high school education, and of these a very *small number* which require by

State law one or more years of college work as preliminary to medical study.

The New York State Board of Education, which is quoted in one particular in the discussed editorial, makes the high school the basis of preliminary education, and has raised the high schools in New York State to a degree of efficiency which satisfies the law in that State. Mr. Augustus S. Downing, the Assistant Commissioner of Education in New York State, at the 1910 meeting of the American Medical College Association in Baltimore, urged upon that Association the importance of distinguishing between a legal standard and an ideal standard of medical education. He submitted the strongest sort of argument for a minimum legal standard within the limits of recognized efficiency, leaving the ideal standard to wealthy and endowed institutions.

In the South it must be a long time before any medical school may take an arbitrary rule in fixing standards of education, beyond the possibilities of the masses, and as yet no Southern school has evolved which is independent enough, either by endowment or State subsidy, to cater to the "classes" alone.

Tulane has gone further than other Southern schools giving a full medical course, in requiring one year of college work in the sciences, and even this conservative college has provided a pre-medical college year for high school graduates in order that they may not be forced to go away from home to obtain the necessary preparation.

It is indeed unfortunate that the Journal of the A. M. A. should even by implication allow a misleading suggestion to come into its editorial pages, and we are sure that every college of medicine which is honestly conducting its administration to the end of training physicians must utter a protest against their official organ declaring war on them by a wholesale recommendation to students to attend by preference the colleges of favored privileges and endowment.

It will take much argument to persuade many State Legislatures to put out of business their educational institutions by making laws which render the conduct of such schools impossible. When all the States recognize the importance of the support of professional schools, and when a high sense of moral obligation to the public obtains among those who make the laws, we may hope for a uniform and ideal mode of medical education in which only those who have attained the highest plane of special education may share. Until then, the country must be served with the varied groups of scientists and practical physicians, trained for their particular fields, and a variety of

colleges must exist to satisfy the demand.
—Editorial New Orleans Medical Journal.

Physical Demonstration of the Thymus.

Basch and Rohn deal extensively with this subject, appending a bibliography. Their conclusions are as follows: Through the combination of accurate percussion in the mediastinal region, as carried out by a new instrument devised by the authors, and auscultation-percussion and auscultation for friction sounds, it was possible to ascertain the size and quality of the thymus in the child. The author investigated systematically 140 cases, learning thereby that the area of thymus dullness varies according to the age and state of nutrition of the child, and further with the presence of certain pathological conditions. Normally the area of thymus dullness has a rhomboid form. It extends from the throat above to the second or third rib below. Its lateral limits extend through the sternal and parasternal lines. These finds were checked up by autopsy cases.—*Deutsche medizinische Wochenschrift*.

Grave Affections Following Trivial Injury.

As in other parts of the body so in the eye some grave disease may follow a trifling injury, a disease which we know to occur frequently without any suggestion of injury. This matter becomes very serious when questions of liability and compensation are involved in the issue also. To give two examples: A miner receives a foreign body on the cornea and immediately nystagmus develops. Or a man receives a slight blow on one eye, and interstitial keratitis first in that eye then in the other makes its appearance in a few weeks. An example of the latter occurrence was recently recorded by Hennart of Lille: A boy of 14 received a very slight injury to the cornea of the left eye. Within a few days interstitial keratitis began, and spread rapidly; in another fortnight the other eye became similarly affected. Now this boy presented no signs—certainly no unequivocal signs—of hereditary syphilis. On the ground that the association might either be a fortuitous occurrence or that the keratitis might have been about to develop at any rate, the claimant was awarded no compensation by the judges. Commenting on this decision, Grandclement very justly—as it seems to us—expresses disapproval, and considers that the attending surgeons gave unwise advice to the judge.

Another case recorded by Grandclement was a somewhat curious one. To the station-master at his terminus the driver of a train

complained of suffering from colic. This was treated by the official surgeon of the line, and it was only some days later that he complained that the eye was bad, and that on the day on which he first complained of being ill he had had that eye and his face badly scorched. He had never till then mentioned the fact. The eye was practically lost by septic ulcer of cornea, and very unfortunately his other eye became similarly affected about five months afterwards and was likewise lost. When the compensation question came on for trial he was awarded substantial damages. The weak point in his case was that neither on receipt of the injury, nor when he complained of colic to the station-master, nor even when under treatment by the surgeon to the line, did he say anything about his eye; it was only when this last noticed the condition of his cornea and questioned him about it that he admitted that the eye had been injured by the spurt of flame. It was really only because there was no other way of accounting for the attack of keratitis in the originally injured eye that he was awarded damages. As regards the second eye the case was even more "thin," but the Court awarded further damages in view of the state of this eye. It is doubtful whether a British jury would have been so docile towards the medical witnesses.—*Edinburgh Medical Journal*.

Occupation Eruptions Affecting Specially the Hands and Arms.

Jacquet and Jourdanet (*Ann. de Dermat. et de Syph.*) while admitting the influence of external irritation in evoking this class of eruptions, are disposed to regard it as vague. Hebra and Kaposi held, as the primary predisposing cause, an individual irritability of the skin. Thibierge, while accepting this, placed in the first rank digestive disturbances, a point to be carefully considered in treatment, since their frequency is incontestable. Out of twenty-seven cases of eruptions of the hands and arms, more or less connected with occupation, noted by these observers, in no fewer than twenty-two were there grave faults of digestive hygiene present. Thus some were alcoholic or addicted to the excessive use of coffee, others were fond of condiments, some ate in excess, while no fewer than eighteen of the twenty-two ate too quickly. Many had defective or decayed teeth. In the general treatment of these cases the following rules were laid down: (1) To eat with extreme slowness; three-quarters of an hour at each meal should be devoted to the careful mastication of all food, even the most tender. (2) To abstain from all condiments except salt. (3) To drink at t

most one to two glasses of water; if to this wine be added, then very little. (4) To refrain from fish, shell-fish, and pork, though ham is permissible. (5) No alcohol or undiluted wine, beer, liqueurs, or appetisers of any description. The rules are simple but not easy to put in practice. In respect to mastication in particular, it is necessary to break off old habits, always a very difficult matter. Slow eating is to be placed at the head as of the highest importance. One should advise the patient not to read while eating, to have his watch before him, and from time to time to ascertain that the advice has not only been understood but followed. The results were quite extraordinary. Of the twenty-seven patients all except two were greatly improved or cured in from three to seventeen days (a mean of six to eight days) by observing the regimen given above, combined with abstention from the occupation. Analyzed, it is seen that quick eating increases the functional toil of the stomach in several directions. It heightens its sensitiveness and its temperature, necessitates more frequent and energetic contractions, retards the evacuation of its contents towards the small intestine and so subjecting the stomach to over-work. Slow eating acts in exactly a contrary fashion. It gives the maximum of result with the minimum of effort. Rapid eating alone exercises in occupation eruptions a harmful effect in proportion to its degree, and inversely, slow eating exercises a curative effect in proportion to its perfection. The commencement of occupation eruptions may be evidenced by pruritus (hyperæsthesia of the cutaneous terminations of the great sympathetic nerves) or by dermalgia (hyperæsthesia of the ends of nerves of cerebro-spinal origin). To this first phase succeeds more or less rapidly erythema, significant of vascular paralysis of sympathetic origin, and then processes of vesiculation and eczematization, the origin of which, in so far as it relates to the influence of the nerve terminals, is less obvious. In proof of this it is sometimes possible to surprise the irritation in transit. We may find an increased sensitiveness to pressure of the cervical portion of the pneumogastric, or of the nerves of the arm where accessible, notably in the axilla. One may formulate a law thus: "The conflict or the convergence of external irritation with one or more internal irritations increases, even to the limit of exhaustion, all cellular reactivity, and disturbs and deranges it." This, through the fact of exposure, is determined to the hands and arms. It is not contended that the irritation of gastric origin is always the sole cause. Irritation from other sources may complicate it, and the authors cite that

for instance starting from dental foci, as well as that arising from cerebral or cerebro-spinal centres, or from the ovaries or uterus. —Edinburgh Medical Journal.

Antidiphtheric Serum and Globulins.

In their current announcements to the medical profession it is noted that Parke, Davis & Co. give equal prominence to their antidiphtheric serum, which they have produced unchanged for many years, and the newer "globulins," which they have been marketing for a number of seasons.

The globulins, as is perhaps known to most practitioners, is antidiphtheric serum with the non-essential portions eliminated. Compared with the normal serum it provides a corresponding number of antitoxic units in lesser bulk, permitting in consequence a smaller dose, which probably accounts for its apparent growth in favor among physicians.

Both the natural and concentrated products, of course, bear the company's guaranty of purity and efficacy. They are evolved in the blood of healthy, vigorous horses and are prepared under the supervision of expert bacteriologists and veterinarians. The tests, bacteriological and physiological, to which they are subjected during the process of manufacture, are thorough and elaborate.

Miner's Nystagmus.

Hessberg details the case of a man who developed marked nystagmus during his occupation as miner and put in a claim for indemnity. The legal aspect of the matter, as presented by Hessberg, is applicable only in Germany, but the medical interest of the case is a wider one. It appears that nystagmus is a frequent occupation disease among German miners, developing among such as are compelled to work in a half-erect position with eyes directed upward to the "ceiling" of the mine, upon which they are working. A contributory cause is found in the poor illumination of mines. The real cause, however, is not yet quite clear, for nystagmus develops only in a small number of workers. According to the most accepted opinion, this nystagmus is a neuropathic affection, only secondarily affecting the eye muscles by lowering their normal tone. Miners having weak eyes are more susceptible, especially as compensating eyeglasses cannot be very well worn during mining work. In addition any illness or habit, such as alcoholism, producing a weakened state of the body, seems to predispose to this affection. Frequently this type of nystagmus appears to be inconstant, being evident only when the miner is at work in the mine.—*Zeitschrift für Versickerungsméizin*.

Charlotte Medical Journal

Published Monthly.

EDWARD C. REGISTER, M. D., EDITOR

CHARLOTTE, N. C.

WEAK FOOT.

The relative frequency of weak foot compared to other disabling affections of the lower extremities cannot be too strongly emphasized. Until it has produced, or is causing, undue disability the advice of the physician is not usually asked; and then its objective symptoms so closely resemble those of some inflammatory condition that the latter is considered and combatted—generally unsuccessfully.

The distinctive symptoms of weak-foot are:

1. *Pain*: Especially marked in warm, wet weather, and affects either one or both lower extremities. It usually disappears when sitting down and during the night, making sleep undisturbed; but is annoying when arising, and aggravated when standing or walking, especially in the bare, unsupported foot. It is located either in the foot alone, in the foot and calf, or it extends up the thigh and to the lumbar region. At first occasional and slight, it increases with time more or less rapidly—occasionally with exacerbations and apparent recessions—until it becomes unbearable.

2. *Awkwardness*: Is due to spasm (stiffness) in the small joints of the foot and in the ankle joint, and to the pain caused by active usage of this deformed and stiffened structure. This spasm is at first voluntary, the muscles straining to keep the tarsal bones in their proper alignment; later when their relationship has become disproportioned it is involuntary (fixed), affecting the ligaments as well. The gait is shuffling in character, the foot more or less markedly turned out, there is no spring from the toes and the knees are held slightly bent.

3. *Deformity*: The condition being one essentially due to a disproportion between the weight bearing power of the active foot structure and the burden placed upon it, the deformity is consequently due to a readjustment of the component parts of the foot, when it is no longer able to support this added strain. It is therefore purely a mechanical one; the astragalus is dipped inward, overriding the approximate tarsal bones; the os calcis is rotated upon its axis downward and outward, thus causing a sinking of the internal malleolus. The foot looks broad and flat, the internal arch is obliterated, there is marked bulging of the

displaced astragalus and the metatarsal and phalangeal portion becomes everted. There are no evidences of disease, such as joint inflammation and degeneration or bone destruction; and the x-ray shows very little change excepting in the relationship of the foot structures.

As regards treatment, its aim should be to aid and regenerate the weakened muscles, to overcome all shortening and spasm, to bring the tarsal bones into their normal relationship, by placing and keeping the foot in the normal attitude,—and when all this has succeeded to apply a light, strong, corrective support, which is worn in the shoe and will effectually hold the foot properly while engaged in active weight bearing and body propulsion. The length of time of treatment depends upon the duration of the affliction and the amount of deformity and stiffness. But it is universally successful if correctly instituted, carefully watched and consistently carried out.

Open operations are hardly indicated, unless for a complication or to tenotomize a very resistant, shortened tendon. There is no paralysis demanding transplantation; and to remove a displaced bone is but to weaken the foot structure still more.

Recognition of this very common ailment is the main feature; the treatment follows purely mechanical lines.

WISE AND OTHERWISE.

In the chairman's address of the Section on State Medicine of Texas, Dr. J. Mark O'Farrell presented something altogether different from the usual persiflage given at such gatherings. His address was printed in the Texas State Journal of Medicine and the reader who is interested may obtain it, we presume, by applying to that journal. Better do so. Nearly every paragraph gives matter worthy of earnest consideration. Not that we agree with Dr. O'Farrell in all of his conclusions. By no manner of means! But his address bristles with suggestions which ought to be discussed for the benefit of our profession and of humanity at large.

Dr. O'Farrell calls attention to the absence of sanitary considerations in the making of human beings. In breeding animals great care is exercised for the reason that well-bred, healthy animals give the best results. No attention whatever is given to the breeding of human beings. I really believe that the principal reason for this is the superstitious dread of interfering in such matters, which prevails almost universally, and which dread undoubtedly comes from the perusal of many, many novels. Mating is supposed to be a peculiarly mysterious process by which out of the billion and a half human beings in the world, each man

and woman instinctively selects the one and the only one created for their mate. Those who have studied the matter ever so little know better. They know the tremendous influence of propinquity. One wise observer remarked that the Miranda of Shakespear's Tempest would have ended by mating with Caliban and trying to make the best possible out of him had not the Prince opportunely arrived. The frightful consequences entailed upon woman when she has innocently accepted as her mate the victim of various loathsome infections, or when she is so unfortunate as to be burdened with a tuberculous or otherwise diseased and incapable mate, fully justify Dr. O'Farrell in his claim that attention should be given to this matter and proper safeguards enjoined by Legislature.

He then proceeds to compare governmental supervision of disease in live stock with that in human beings, but here we can not agree with him. The four-footed hog is incapable of looking after his health. It is an article of merchandise and since it has been taken from its natural conditions and subjected to the restraints and difficulties of civilization, it is no more than just and right that the government should care for its health, especially in view of the vast importance of furnishing it to the people as a food in sanitary condition. But human beings are expected to be able to take care of themselves. If they have not intelligence and education enough to do so, they can obtain the education, and intelligence they ought to have. Failing in it they fall under the category of the unfit who do not survive. We do not believe that it is a wise thing for a government to do the thinking for the people. We are adherents of the old Jeffersonian principle, of the self-respecting, self-sustaining individual, capable of caring for himself. That ideal is worth far more than the preservation of the lives of a few people too imbecile to care for themselves. Here we can not agree with Dr. O'Farrell.

So also we are compelled to draw issue with him as to his desire to saddle upon the State Board of Health the responsibility for the eradication of typhoid fever. This is a matter for the individual doctor. The means of stopping typhoid fever are too well known and easy of accomplishment. All the doctor has to do is to see that the discharges from each patient are completely disinfected, and not allowed to contaminate the drinking water or the food, and that flies are denied access to these discharges before they are disinfected. This is so much a matter for the individual doctor that we would cheerfully see placed upon the statute book a law fining the physician for every case of

typhoid fever, which is transmitted to others by reason of his negligence in the care of patients affected with that disease. Further than this we would resent the interference of the State Board of Health with what is so obviously the individual's privilege as well as the duty of the physician.

Dr. O'Farrell next objects to the lack of adequate provision for the instruction of students of medicine in the medical colleges in the way of sanitation. Here we thoroughly agree with him. There is no department of medicine which is of greater importance than this. The medicine of the future is bound to deal largely with the prevention of disease, and the young men leaving our colleges should be quite adept in this department, so that they would be qualified to take the position of State, municipal or national hygienists when called upon to do so. More than this, every practicing physician ought to have such a working knowledge of the principles of hygiene as to render the families entrusted to his care safe so far as means and knowledge go in this direction.

These extracts will show how many questions of vital importance are discussed in this brief address and we commend it to the earnest attention of our readers.

PILOGARPINE IN THREATENED PNEUMONIA.

In the *Therapeutic Record*, Dr. J. J. Hathaway recommends pilocarpine as a remedy for the acute congestion of the first stage of pneumonia. He gives small doses frequently repeated until the skin is moist, generally 1-16 grain every half to one hour.

His reasons are that pilocarpine is diaphoretic, diuretic and expectorant, stimulating the sweat glands of the skin, the mucous glands of the mouth, throat and respiratory tracts. If carried far enough it produces free perspiration with a drop in temperature. It also causes leucocytosis, a very important point in the early congestions when nature is endeavoring to rid the system of toxins. It is diuretic, increasing both the watery and solid parts of the urine, and expectorant, enabling retained and infected mucus to be eliminated with large numbers of microorganisms.

In all of this Dr. Hathaway is undoubtedly correct. Nevertheless we do not approve of his use of pilocarpine, for the reason that in some cases it has been known to give rise to pulmonary edema, and this is a distressing and perilous condition. For this reason we would prefer to depurate the system by prompt and vigorous cathartics, bringing the pulse under control by the use of veratrin, which is perhaps the best all-around eliminant at our disposal, and still

further favor resolution by the use of calcein in full doses. Since the discovery that this remedy may be given in doses of five or ten grains each, it has proved of a value not previously suspected by its most earnest advocates. This is especially so in the forming stages of respiratory inflammations and in influenza.

We do not doubt but that Dr. Hathaway obtains quite as good results from pilocarpine as he describes, and he might treat twenty or even fifty cases before he encounters a single instance of pulmonary edema from it, but one such case is amply sufficient, and after he has met it he will not use pilocarpine in them any longer.

A NEW RANGE OF THOUGHT.

Active medical men grow weary of the incessant grind of facts of desolation and disease, and the evidence of how it can be checked and broken up. Literature and poetry and various fads come in to fill up the want of something that is refreshing and new.

Many doctors are interested in the higher problems of life, particularly in philosophy, theology and evolution, and the great eternal question comes to them, when and how, and why, and what the great current of events mean, and where it is drifting?

For a number of years a Cambridge, England, publication called *The Hibbert Journal* has been published quarterly, presenting a variety of papers from the most distinguished scholars and thinkers of modern times on all sorts of philosophic and theologic problems.

These are veritable oases in the great desert of literature, and the doctor, of all others, needs to sit down and refresh himself with the great thoughts of the highest trained scholars, and feel the stimulus that comes from a higher latitude.

The following is a selection from one of these papers on "Seeds of Racial Decay," and gives one a faint idea of the rich treasures this journal presents. The American agents are Sherman, French & Co., Boston, Mass.:

"The fact that the number of old persons among us is constantly increasing and that the relative number of the young is falling off, that the multitude of the feeble-minded, the alcoholic, the incompetent is growing, while the healthy, the strong, the able are limiting their families, means that the nation is growing distinctly older and more infirm on the average than it used to be, and it seems that this effect is what people are striving to express when they attribute the fall of empires to the fact that they grow old and decay. There is no reason why, given a normal birth-rate and death-rate

and the working of selection on a naturally breeding population, there should ever be any racial "*growing old*"; but it is the obvious consequence when a form of civilization is established which produces increase of years in all classes with decrease of birth-rate among the able and thrifty, thus adding to its other misdeeds the reversal of natural selection. Such a state of society is essentially unstable, and carries in its midst the seeds of its own decay."

IS CONSUMPTION CONTAGIOUS?

It is a curious fact that the same theories appear now and then, supported by about the same supposed facts, then die out, only to appear again as something new and practical.

The history of medicine is full of curious theories that move in waves and then die out. Dr. Mays, of Philadelphia, who has given this subject some attention shows how absurd the claims of many authors are concerning consumption and contagion.

He shows from history that in 1754 consumption was supposed to be contagious. The Grand Duke of Tuscany made it compulsory for all physicians to report every case of consumption, under a fine of \$100 for failures to do so. The cases were to be separated from all others, and the most thorough disinfection of the surroundings and every possible condition that would communicate the contagion.

For a period of over thirty years this idea was prevalent, then it died out. Again in 1780, Ferdinand IV of Naples fined and imprisoned physicians who failed to report cases of consumption. The fear of contagion was so great that the cases were neglected, shunned; and furniture in the rooms in which they lived was burned. Most drastic measures were used to prevent the disease from spreading. Houses and blocks were burned down, and great suffering followed, wherever consumption appeared, particularly to the friends and relatives of the patients.

Notwithstanding this very drastic measure, the prevalence and death rates continued the same. Later, when these two great crusades against consumption were studied, it was seen to be barbaric and without reason, and the evidence of contagion was simply imaginary, and the tremendous efforts made were utterly useless.

After the discovery of the tubercular bacillus in 1882, the idea started again that consumption was contagious, and that has continued almost up to the present time. In some sections most drastic rules and laws are enacted, and yet all based on a delusion which has no confirmatory evidence, except in the most vague, uncertain way.

The hotels in Florida and in Colorado often treat consumptives as they would small-pox cases: subject them to all sorts of annoyances from pure theories.

The laboratory researches give no evidence of the contagiousness of this disease in the strict sense of that word. Like diphtheria the germs are everywhere and cannot be destroyed beyond all possibility of growing again. It is a very serious question whether consumption should be recognized as a specific germ disease, and all our remedies directed to this one cause. Many good authorities believe, from very strong evidence, that it is equally a neurotic disease in which degenerations, both local and general of the system, furnish favorable soil for the growth of the bacillus.

The effects of the anti-consumptive crusades produce great distress in some sections. This seems to be based on an unsupported theory of contagion, which a larger and more exact study would break up.

Dr. Mays has done great service in showing that this view is unsupported and should be put aside in rational treatment. While the special studies of this disease have brought out many very interesting facts, they have all pointed conclusively to the value of constitutional treatment as a disease of the nervous system as well as of the lungs.

The outdoor treatment in high altitudes confirm this, and altogether the present literature and many of the theories held so tenaciously at present will have to be dropped, and a new and more rational conception of the case must be recognized.

QUACKERY.

Recently there has been a great revival of interest and effort to suppress patent drugs of little or no value. Laws have been passed restricting advertising doctors from coming into a town and promising to do the impossible.

The question has been raised in many quarters, who is responsible for them, and an example is given, of a very notorious quack, attracting a great deal of attention in the immediate vicinity of one of the most famous medical colleges in America.

His pretensions are most unreal and extravagant, and yet no one pays any attention to him; whether he is violating the laws of the city or not, or whether he has a license, no one seems to care. The crowds that visit him and the enormous fees he charges make little or no impression on the general public.

The college with its skilled professors seems utterly oblivious to any possibility of restricting or exposing his nefarious work.

The public look to the regular profession for protection, and in this case there is not the slightest effort made to diminish or expose his work.

The question arises, is this an exception to the rule? Are quacks tolerated by the profession in sheer hopelessness and inability to eliminate them, or do they buy freedom from exposure in a community? There are many reasons for believing that the latter occurs in some instances.

A quack going into a town, paying a high license is protected by the officials in some way, and the local doctor who protests is made to feel that it is against his interest to say anything, and while he may talk among his patrons, he is deterred from making a public contest to show the rapacity of the quack.

Dr. Brown in a recent article arraigned the profession very seriously for not giving public lectures on health in their towns and neighborhoods, and educating the public out of the credulity and ignorance, which will support the pretensions of quacks. He affirms that every village and town of any size should have health lectures in which all the doctors would participate, and thus teach their patrons how to avoid the unscrupulous imposters, who personally and with the aid of high sounding drugs aim to cure diseases, and be well paid for it.

He cites the case of where three doctors in a little village gave lectures in the different churches on quacks and health matters, patent drugs and questions of disease, during the course of the winter. Immediately the sale of patent medicines fell off and the traveling quacks found it a very poor neighborhood, and finally not one of them ventured to appear, as there was no business to be had.

Each of these physicians noted an increase in their own income. People who were accustomed to depend on patent drugs came to them for advice and counsel and the drugs were given up. There is certainly something very practical in this direction. If medical men in a quiet way would point out to their patrons the risk of trusting to imposters and strangers, and the danger of depending on advertised drugs for health, they could do much to break up the delusional conditions that prevail in every community.

In reality it should be this. The doctor should create such a degree of confidence in his patrons that his judgment would be taken on all health matters in preference to any strangers, and this is the great want in every community which should be the central purpose of the doctor's work.

The more the laity are taught on health matters, the more certain the quacks will

disappear. The less they know of medicine and the less they respect the physician, the more they will be subjected to the tricks and dishonesty of the quacks.

EDITORIAL NEWS ITEMS.

Meeting of the Seventh District Medical Society.

The Seventh District Medical Society of North Carolina held its second annual meeting in Gastonia, N. C., on December 5th.

The meeting was largely attended by physicians from all over the district, which comprises ten counties.

Dr. J. P. Munroe, of Charlotte, N. C., presided over this meeting, and by his zeal and enthusiasm added much to the success of the meeting.

The program was as follows:

Addresses of Welcome—Mr. A. C. Jones, Dr. A. D. Garrison.

Response—Dr. A. M. Whisnant.

These addresses were very interesting.

"Headache: Its Causes as Related to Abnormal Conditions Existing in the Eyes, Nose and Accessory Sinuses."—Dr. R. S. Cauthen.

"The Treatment of Acute and Chronic Otitis Media."—Dr. J. W. McConnell.

"Some Reflections on Now-a-Day Methods of Prescribing Glasses."—Dr. J. H. Tucker.

"Plea for a Better Knowledge of Drugs."—Dr. C. J. McCombs.

"The Management of Catarrhal Pneumonia in Children."—Dr. J. E. Ashcraft.

"Hernia."—Dr. R. L. Gibbon.

"A New Operation for Empyema of the Lungs."—Dr. Harlan Shoemaker.

"The Cancer Problem."—Dr. C. M. Strong.

"Technique of Brain Surgery."—Dr. Henry Norris.

AFTERNOON SESSION, 1:30 P. M.

"The Comparative Effect of Mercury and Salvarsan Treatment on the Wassermann Noguchi Reaction in Syphilis."—Dr. F. D. Austin.

"Functional Activity of the Kidneys."—Dr. J. W. Squires.

"Significance of Cloudy Urine."—Dr. A. J. Crowell.

"A Report of a Caesarian Section Operation."—Dr. Annie Alexander.

"Infant Feeding."—Dr. I. W. Faison.

"Treatment of Lobar Pneumonia."—Dr.

G. M. Taylor.

"Feeding in Typhoid Fever."—Dr. B. B. Lancaster.

"X-Ray as an Aid in the Diagnosis of Gastric Cancer."—Dr. W. O. Nisbet.

"Treatment of Tuberculosis—Climate Versus Tuberculin."—Dr. W. R. Engel.

"Tuberculosis of the Hip Joint."—Dr. A. G. Brenizer.

"Exhibition of a Series of Radiographs."—Dr. W. D. Witherbee.

EVENING SESSION, 7:30.

"The Value of Taking Blood Pressure as a Routine Procedure."—Dr. William Allan.

"Some Overlooked Cases of Malaria."—Dr. Baxter Haynes.

"Backache in Women."—Dr. John R. Irwin.

"Acute Rheumatic Fever with Endocardial Complication."—Dr. W. F. Mitchell.

"Some Recent Experience in the Practice."—Dr. D. A. Garrison.

"The Things That are Necessary to Promote a Ripe Old Age."—Dr. H. D. Stewart.

The next meeting of this association will be held at Wadesboro, N. C.

Southern Medical Association Meeting.

The Southern Medical Association held its regular annual meeting in Hattiesburg, Miss., on November 14th, 15th and 16th.

This was one of the best sessions yet held by this comparatively new organization. The association is composed of the physicians of Tennessee, Mississippi, Florida, Georgia and Alabama, and it is taking a very important place in medical associations.

Many very valuable articles were read and discussed before this meeting. Pellagra and hookworm disease were discussed by some of the most eminent physicians in America.

Marriages.

Dr. A. S. Cromartie, of Fayetteville, N. C., and Miss Annebel Murphy Williams were married at the bride's country home, "Woodland," on November the 28th.

Dr. Cromartie graduated in medicine from the North Carolina Medical College in 1900. He has been very successful in his practice of medicine, and his popularity increases with his experience.

Deaths.

Dr. J. C. McKenzie, a prominent physician of Hasty, N. C., died on November

the 20th. He was 64 years old. Paralysis was the cause of his death.

Dr. McKenzie graduated in medicine at Jefferson Medical College in 1878.

Dr. Eugene Wasdim, a prominent physician of Georgetown, S. C., died on Nov. the 17th in Gladwine, Pa., where he was undergoing treatment.

Dr. Wasdim was born in Georgetown, September 28th, 1859. He graduated from the Charleston Medical College in March, 1882, as first honor man and entered the U. S. Public Health and Marine Hospital Service in 1883. At the time of his death he held the rank of a full surgeon in the service. He was stationed at Buffalo, N. Y., at the time of the assassination of President William McKinley and was one of the surgeons who operated on President McKinley and attended him during his illness.

He did exhaustive scientific work in yellow fever, for which he was decorated by the King of Italy. He was always in the field in all yellow fever epidemics, and was a recognized authority in the diagnosis of that disease. He contracted yellow fever during work in a yellow fever epidemic in Mississippi several years ago, but recovered and resumed duty in the same epidemic.

Book Notices.

A Manual of Practice of Medicine. By A. A. Stevens, A. M., M. D., Professor of Therapeutics and Clinical Medicine in the Woman's Medical College of Pennsylvania. Ninth edition, revised. 12mo of 573 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Flexible Leather, \$2.50 net.

The fact that the ninth edition of this work has been called for is sufficient proof of the popularity of this work. This edition is a thorough revision of the former editions, and much new matter has been added to the text. The sections on dentistry, acute pancreatitis, worm infection, rheumatic fever, dengue, rheumatoid arthritis, purpura, aphasia, myelitis, acute anterior poliomyelitis, and disseminated sclerosis have been wholly rewritten.

The volume is beautifully bound in black flexible leather, and is very attractive in its appearance. We know of no book on this subject which could be of more value to the medical student than this one.

The Way with the Nerves. Letters to a Neurologist on Various Modern Nervous Ailments, Real and Fancied, with Replies Thereto, Telling of Their Nature and

Treatment. By Joseph Collins, Physician to the Neurological Institute in New York. G. P. Putnam's Sons, New York and London. The Knickerbocker Press, 1911.

The "nerve subject" has been so simplified in this book until it will be found of interest even to the laity. In these days when nervous diseases thrust themselves into every grade of life, every one should have some acquaintance with the obscure points of these diseases.

The following subjects are carefully given in this edition:

Sick Headache, Neurasthenia, Psychasthenia, Epilepsy, Mental Retardation in Children, Depression, Hysteria, The Moderate Drinker, Eunni, The Repressed Emotional Woman, The Dual Personality, The Idle Well-To-Do Young Man, On The Choice of a Profession for a Nervous Youth, "Youthful Errors" and Nervousness, Jealousy, The Neurologist and the General Practitioner, Dipomania, Concerning the Bedside Manner.

The book is neatly bound, and will be found of interest and value to all people suffering from nervousness.

Transactions of the Thirteenth Annual Meeting of the American Gastro-Enterological Association Held at St. Louis, Mo., June 7-8, 1910.

The officers of this association are as follows: President, Walter B. Cannon, Boston; Vice-Presidents, Jno. A. Lichty, Pittsburgh; George D. Kahlo, French Lick; Secretary and Treasurer, Charles D. Aaron, Detroit.

In this volume we find many very valuable papers which were presented before the 1910 meeting of this organization. One of the articles, especially, we would like to comment on. It is entitled "Stretching of the Cardia in the Treatment of Cardiospasm and Idiopathic Dilatation of the Oesophagus," by Max Einhorn, M. D., New York.

This article contains many fine cuts, and the way in which the author presents this subject makes it very interesting and helpful to the reader.

The book is well bound, and well printed, and will be an attractive addition to any physicians' library.

Case Histories in Neurology. A Selection of Histories Setting Forth the Diagnosis, Treatment and Post Mortem Findings in Nervous Disease. By E. W. Taylor, A. M., M. D., Instructor in Neurology, Harvard Medical School; Assistant Physician, Department of Neurology, Massachusetts General Hospital; Visiting Neurologist, Long Island Hospital, Boston.

Boston: W. M. Leonard, Publisher, 1911.

The object of this book is to set forth in practical form, on the basis of the Case System, certain fundamental facts regarding the symptomatology, diagnosis, treatment and pathological findings in the more frequent disorders of the nervous system.

The text of this volume is divided into five sections, as follows: Section I, Peripheral Nerves; Section II, Spinal Cord; Section III, Brain; Section IV, Conditions of Vague or Undetermined Pathological Basis; Section V, Psychoneuroses.

The illustrations in this volume are evidences of some very fine work on the part of the engraver, and the binding and printing is done in a first-class manner.

The Parasitic Amoebæ of Man. By Charles F. Craig, M.D., Captain Medical Corps, United States Army. From the Bacteriological Laboratory of the Army Medical School, Washington, D. C., and the Rockefeller Institute for Medical Research, New York City. Published with the authority of the Surgeon General of the United States Army. Philadelphia and London: J. B. Lippincott Co. 1911. Price \$2 50.

The great importance of amoebic infections of the intestine and liver in man, and the frequency with which such infections occur in our tropical possessions, render a work upon the parasitic amoebæ of man of interest to the medical profession of the United States.

No monograph has appeared in English giving in detail the work accomplished by numerous students of the amoebæ which are parasitic in man, and for this reason the author has thought that such a work would prove of value to the profession of this country, especially to medical officers of the Army, Navy, etc., and also to public health officers.

The author has given us in this volume a detailed description of the various species of amoebæ which have been described as parasitic in man, especially as regards morphology, life cycle, methods of differentiation, and relation to disease.

The volume is very attractive in its substantial binding, and large type, and we are pleased to mention its value in this journal.

A Text-Book of Medical Chemistry and Toxicology. By James W. Holland, M. D., Professor of Medical Chemistry and Toxicology, Jefferson Medical College, Philadelphia. Third Revised Edition. Octavo of 655 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, \$3.00 net. The changes of this revision are limited

to such as would not increase the size of the volume. They consist in the many minor alterations of the text found necessary to bring it accurately abreast with the most recent and approved research.

The book is substantially bound, and the illustrations are very fine indeed. We can conscientiously recommend this work to medical students.

Foods and Their Adulterations. Origin, Manufacture, and Composition of Food Products: Infants' and Invalids' Foods; Detection of Common Adulterations, and Food Standards. By Harvey W. Wiley, M.D., Ph.D. With eleven colored Plates and Eighty-seven other illustrations. Second Edition, Revised and Enlarged. Price, \$4.00 net. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1911.

The entire volume of reading matter contained in this book has been carefully gone over, and some parts have been practically rewritten, many new points have been added, and the book, as it now appears, seems complete in every detail.

The methods of preparing food for infants' and invalids' have been carefully considered and the description in this volume of how these should be prepared is quite plain and practical.

The publishers have spared no effort, as it occurs to us, to make this volume very attractive. We are glad of an opportunity to recommend this book to our readers.

The Practitioner's Visiting List for 1912.

An invaluable pocket-sized book containing memoranda and data important for every physician, and ruled blanks for recording every detail of practice. The Weekly, Monthly and 30-Patient Perpetual contain 32 pages of data and 160 pages of classified blanks. The 60-Patient Perpetual consists of 256 pages of blanks alone. Each in one wallet-shaped book, bound in flexible leather, with flap and pocket, pencil with rubber, and calendar for two years. Price by mail, postpaid, to any address, \$1.25. Thumb-letter index, 25 cents extra. Descriptive circular showing the several styles sent on request. Lea & Febiger, Publishers, Philadelphia and New York.

Being in its twenty-eighth year of issue, The Practitioner's Visiting List embodies the results of long experience and study devoted to its development and perfection.

It is issued in four styles to meet the requirements of every practitioner: "Weekly," dated for 30 patients; "Monthly," undated for 120 patients per month; "Perpetual," undated, for 30 patients weekly per year, and "60 Patients," undated, for 60 patients weekly per year.

The text portion of *The Practitioners' Visiting List* for 1912 has been thoroughly revised and brought up to date. It contains, among other valuable information, a scheme of dentition; tables of weights and measures and comparative scales; instructions for examining the urine; diagnostic table of eruptive fevers; incompatibles, poisons and antidotes; directions for effecting artificial respiration; extensive table of doses; an alphabetical table of diseases and their remedies, and directions for ligation of arteries. The record portion contains ruled blanks of various kinds, adapted for noting all details of practice and professional business.

Printed on fine, tough paper suitable for either pen or pencil, and bound with the utmost strength in handsome grained leather, *The Practitioners' Visiting List* is sold at the lowest price compatible with perfection in every detail.

Landmarks and Surface Markings of the Human Body. By Louis Bathe Rawling, M. B., B. C., (Cant.), F. R. C. S. (Eng); Assistant-Surgeon, Demonstrator of Practical and Operative Surgery, late Senior Demonstrator of Anatomy at St. Bartholomew's Hospital; late Assistant-Surgeon to the German Hospital, Dalston; late Hunterian Professor, Royal College of Surgeons, England, etc. Fourth Edition Revised. 8vo. Cloth, 32 full page illustrations, 91 pages of text. \$2.00 net. Sent prepaid on receipt of price. Paul B. Hoeber, Medical Publisher, Bookseller and Importer, 69 East Fifty-ninth Street, New York. 1911.

This is one of the most convenient books for the student and general practitioner that we have had the privilege of reviewing lately. It is clear, concise, and to the point in every respect. It is hard for us to sufficiently impress upon the minds of our readers the immense amount of practical anatomy contained in this small volume.

It defines all the important landmarks and surgical surface markings in an accurate manner, and illustrates them well.

The book is neatly bound and is very attractive in its appearance.

If thou art worn and hard beset
With sorrows that thou wouldst forget;
If thou wouldst read a lesson, that would keep
Thy heart from tainting and thy soul from sleep,
Go to the woods and hills! No tears
Dim the sweet look that Nature wears.

—Texas Medical Journal.

Abstracts of the Leading articles of the month.

Diagnosis of Scarlet Fever.—Gordon, in *The London Practitioner*, divides the diagnosis of scarlatina for purposes of discussion into three stages: First, when the patient is seen in the acute stage; secondly, in individuals who are said to have had scarlet fever some days previously; and lastly, when the patient is seen for the first time in a state of desquamation.

In the acute stage the chief fallacy, according to the author, lies in the tendency to focus the attention too closely on the eruption. The more one sees of scarlet fever the less does one rely on the appearance of the rash *per se*. In acute rheumatism and in follicular tonsillitis a rash often occurs that is indistinguishable from that of scarlet fever, both in appearance and distribution. It is certainly more usual for the erythema accompanying a follicular tonsillitis not to have the punctate character usually presented in scarlet fever; but the fallacy here is that in the latter disease the rash is often never punctate at any time or on any part of the body, but may be quite uniform. Perhaps a little help can be gotten from one point in the distribution of the eruption, viz., its predominance (and persistence) in the groins and axillae, a feature which the author has never seen except in scarlet fever, though it is by no means always present.

The important thing about the eruption, however, is its relation in point of time to the onset. When an erythema of any kind appears within the second twenty-four hours after the initial vomiting, the case should be regarded as scarlatinal until one is absolutely sure it is not, even if one has to wait for two or three weeks.

Similarly, scarlet fever cannot be diagnosed from the appearances of the throat alone. A red and painful throat may be due to simple, ulcerative, rheumatic, or syphilitic tonsillitis. The age of the patient is here of some assistance. Under the age of eight or thereabouts follicular tonsillitis is distinctly uncommon, while scarlet fever and acute rheumatism are frequent. In adults follicular tonsillitis is much commoner than scarlet fever, while the possibility of secondary syphilis has to be borne in mind. One point of practical importance here is that (in an adult) the malaise persists after the subsidence of the faucial symptoms—even though the temperature has fallen—in scarlet fever, while in tonsillitis the patient usually wants to get up as soon as his tonsils are clean.

The feature of greatest diagnostic value

in the author's estimation, is the co-existence of a "dirty" throat with a peeled and papillated tongue. The so-called "strawberry" tongue may repeatedly be seen in such diseases as enteric fever and pneumonia, or even after a surfeit of green apples or sweets, which incidentally is often associated both with vomiting and slight pyrexia; but the author has not seen a peeled and papillated tongue together with exudate on the fauces in any disease except scarlatina, and this combination is present in almost every case if repeated observations are made.

In the second group of cases—where we are told (or find out) that a patient has been suffering previously from an illness which may or may not have been scarlatinal—we have only two points of value. One is the presence of dark-brown, isolated, follicular, raised spots on the outer aspect of the legs or arms (not thighs or forearms). These, when well marked, are practically diagnostic of scarlet fever, but they are not present in more than 50 per cent. of cases. The second sign is slight albuminuria combined with repeated (three or four) negative cultures for diphtheria bacilli from the fauces.

In the third group—where the patient is peeling when first seen—two widely prevalent misconceptions are pointed out by the author. One is that peeling always denotes a previous attack of scarlet fever. As a matter of fact, peeling may occur after almost any type of eruption, notably measles, rotheln, and urticaria. The other is that cases of scarlet fever always peel. In adults there are undoubtedly cases of true scarlet fever where there is no desquamation at all.

Practically there are three types of desquamation characteristic of scarlet fever, viz., ringed peeling, usually most marked on the neck, chest, shoulders, and ears; secondly, glove peeling or shedding of the cuticle of the fingers and toes en masse; and thirdly, peeling (of any type) starting on the hands or feet after an interval of from one to three weeks from the disappearance of the rash.

Glove peeling is easily recognized, but the ringed desquamation, though to the trained eye equally suggestive, is not so manifest, being sometimes found only after prolonged search and in only one or two small areas. As for peeling on the hands or feet after an interval, allowance must be made for desquamation in an adult due to the nature of the patient's occupation; thus in a man "occupation peeling" usually shows itself on the palms, and in women who use the needle, on the sides of the first and second fingers.

Sometimes we may get help in the diagnosis from the supervention of acute nephritis, with blood in the urine, which in combination with desquamation is practically pathognomonic of scarlet fever. Otorrhea, on the other hand, is not at all conclusive, as it may follow just as readily from a non-specific tonsillitis.

Nursing by Puerperal Women.—Frauz (Berl. klin. Woch.) says that there is no such thing as a physiological inability of a healthy mother, to nurse her child. The writer says that it lies with the general practitioner to bring about such a state of mind in his patients that they shall wish to nurse their children. Formerly the Dr. believed that some women could not nurse their children, but he has changed his position with experience, and by judicious advice he has been able to induce all the women in his hospital service to perform this duty. The writer's method of treatment of all lying-in women is given. He says that the child should be placed at the breast within twenty hours after delivery, since its attempts at nursing hasten the appearance of milk in the breasts. The child is placed at one breast at a time for twenty minutes. The child is nursed five times daily. From 10 p. m. to 6 a. m. the mother has rest. No drawing out or manipulation of the nipples during pregnancy is necessary, and no applications are made, nor is the child's mouth washed out before nursing. A clean garment covering the nipple is sufficient protection. At each nursing the breast should be emptied; milk left in the breast will harden and give trouble. The women get up on the fifth day and this helps appetite and general condition, which increases the supply of milk. We cannot expect good milk if we give the mother a low diet. He allows his patients to eat anything they desire from the first day after labor. Puerperal infection, cancer, and pulmonary tuberculosis contraindicate suckling.

False Vomiting.—Mathieu (Rev. Française de méd. et Chir.) defines vomiting as the rejection by the mouth, with a characteristic effort, of substances coming from the stomach, and hence false vomiting proceeds from rumination and regurgitations. He leaves out of consideration the former, and devotes his attention to false esophageal vomiting and regurgitations. The former he divides into vomiting or regurgitation with dysphagia, vomiting, or regurgitation accompanying a dilatation, or esophageal diverticulum, and esophageal pituitous vomiting. The latter is of four kinds: (1) Immediately after a meal, a sensation of weight and pain is felt in the stomach, sali-

vation becomes increased, and a spasm of the cardiac end of the stomach results. When the esophagus above the cardiac end is filled with liquid, a sensation of pain and thoracic uneasiness is felt, and this is at once followed by rejection of the fluid. (2) In other patients the nausea is primary, and precedes the accumulation of the saliva in the esophagus; this is the condition in the morning vomiting of alcoholics. (3) In the same patient a pituitous vomiting may result from the esophagus; it may be elementary, of gastric origin, or it may be bilious. (4) Haemorrhagic pituitous vomiting of hysteria. The color of the liquid is similar to syrup of curraunts diluted with water, or it may be browner if exposed to the air for a certain time. The condition is nearly always hysterical. The author believes the blood can come from the salivary glands, the pharynx, or esophagus. He considers the vomiting of regurgitation is semi-voluntary, and can easily become voluntary, and cure can be obtained by appealing to the good sense of the patient. In cases of sialorrhea ending in vomiting, the author has seen good results from taraxacum. In hemorrhagic vomiting suggestion plays a great part.

The Appendix in gynecology.—Leguen (La Gyn.) reviews the position of the appendix in various gynecological troubles. With some surgeons it is a rule in all gynecological operations to remove the appendix whether diseased or not. This is the practice of the author. In many of these cases there has never been an appendicidal crisis. In thirty-two cases of appendix removed in the course of various operations a microscopic examination was made. The histories of these cases and their findings are detailed. The cases of adnexitis show that in a large proportion of them there were lesions of the appendix as well. Even when the appendix was distant from the tube it was found to be altered, showing that the inflammation had been propagated to the appendix by peritoneal or subserous paths. These lesions were such as to demand the removal of the appendices. Removal of the appendix is the necessary complement of salpingectomy or hysterectomy for catarrhal or suppurative salpingitis. In the absence of lesions of the adnexa the appendix is less likely to be involved, but even in these cases the author thinks it better to remove the appendix. In every case of laparotomy for gynecological disease the appendix should be removed as a routine procedure.

The Natural History of Epidemic Diarrhea.—Peters (Proceedings of the Roy. Soc. of Med.) has studied the influence of seasonal variations of temperature and other

meteorological conditions upon the epidemic rise and fall of epidemic diarrhea and enteric fever. The Dr. showed that the time of epidemic rise varies in different years, and that the time of attainment of summer temperatures also varies. A comparison of the two curves showed a very general correspondence between the early or late onset of the epidemic rise and the time of development of summer temperature, but further observations demonstrated that it is not the mere arrival at a certain fixed temperature which is related to the date of the seasonal rise. From a study of these curves for a number of towns for certain periods of years it was suggested that the seasonal rise might be related to the cumulative effect of certain degrees of temperature extending over a certain time. As an example, it was found for London, Nottingham, and other large cities of the United Kingdom that after the arrival and continuance, without intermission, of the mean air temperature at 60° F. for a period of four or five weeks the main seasonal rise of diarrhea mortality took place, the last fortnight or ten days of the period corresponding to the average duration of fatal attacks. On analysis of a considerable number of charts it was found that upon a rise to a favorable mean air temperature of 60° F. or a little below there is, firstly, an interval of two weeks during which no increase of diarrhea cases occurs, or of four weeks before deaths, afterwards there is a slight rise, but an additional period of one to two weeks or a little more may elapse before the main rise develops. It was also evident that the influence of temperature upon the seasonal epidemicity of diarrhea is a very important one, since failure of the summer temperatures to reach a certain height prevents it altogether, and, further, the epidemic mortality invariably comes to a standstill a fortnight after the weekly air temperatures have passed in a decided way below 50°. He has further studied this question in an interesting and careful examination of the features of an outbreak of epidemic diarrhea in certain districts of the town of Mansfield during the summer and autumn of 1908. Two areas of the town were systematically investigated by the author himself, and the features of 390 separate attacks of the disease were investigated. On the basis of his observations he gives an exhaustive account of the conditions relating to the disease, and examines the various theories as to its causation and spread. The writer found that the incubation period was from six to thirty hours in length, but that it might possibly be longer. School attendance seemed to have little effect on the spread of infection, but the sharing of yards in common

apparently had a marked influence upon the spread of infection. Dirtiness of the home increased the incidence of the disease, probably through carelessness in dealing with the motions, especially those of the young children. There was a comparatively low incidence during the first year of life, which was probably due to breast feeding. It is important to notice that the attack age incidence was quite different from the mortality age incidence, which is far greater under the age of two years. Boiling the cow's milk given as food gave no protection, and it was found that the milk-supply played no part, unless of a general kind, in introducing diarrhea into the home. The part played by personal infection, direct or indirect, by flies and the possible role of ground infection are carefully examined. The author found that infection within the home was probably the commonest method of contracting the disease. The evidence was in favor of personal infection and fly carriage, and rather against ground infection. Comparing the diarrhea curve with the curves of temperature and fly prevalence, it showed a delayed rise, variations with their variations, and a definite falling away from their declining curves. Careful analysis of these curves proved to be quite compatible with the theory of fly infection, but certain crucial tests which the author outlines as necessary to establish this theory have still to be proved. This monograph is a thoughtful and valuable contribution to the literature of a devastating disease, and deserves careful consideration by all who are concerned in its study.

The Pancreas Therapy of Diabetes.—

Leschke (Muench. med. Woch.) after many experiments offers the following conclusions:

Fresh pancreas extract increases the excretion of sugar in diabetic animals and man and also exerts a glycosuric, toxic and even a lethal action upon normal animals. Inactivated pancreas extract does not manifest this action, and partly inactivated extract only a weakened effect.

The pancreas therapy of diabetes is thus deprived of any experimental basis. Injection of pancreas substances increases the excretion of sugar and causes abscesses and general disturbances. Administration per os also increases the excretion of sugar.

The basis of pancreas therapy—the theory of internal secretion of the pancreas—is thus far an unproved hypothesis. The absence of pancreas diabetes in spite of total destruction of the pancreas and its occurrence in spite of complete preservation of this gland, render it probable that carbo-

hydrate metabolism is regulated, not by a nervous mechanism.

A New Treatment for Venereal Papillomata.—

Wroughton (Journal of the Royal Army Medical Corps) reports a case in which the whole of the mucous membrane of the foreskin was covered with papillomata so closely packed that they fitted into one another like a mosaic; they overflowed on to the skin of the penis and also on to the glans. Below the corona glandis, extending downwards three-quarters of an inch, was a thick collar of sessile warty growth which exuded the most offensive secretion. The papillomata varied in size from that of a large pea to that of a millet seed, and projected from the surface of the organ three-quarters of an inch. The end of the penis resembled in appearance and size a small cauliflower. At first, local treatment by means of astringents and antiseptics was tried, but so little headway was made that it was decided to use the X-rays; the first exposure was for eight minutes, and the second, five days later, for ten minutes. The third exposure, again five days after the previous one was for 18 minutes, and after this the patient was given an exposure of 15 minutes every four days until he had had seven; after a week's interval the eighth and last exposure, also of 15 minutes duration, was given. The following changes were noticed after the third exposure—the offensive secretion had quite ceased, and some of the large warts were getting hard and dry. After the fourth, most of the growths began to shrivel. After the fifth, several growths fell off, leaving quite a healthy surface beneath, and the sessile growth was shriveling. After the sixth, half the growths had disappeared. After the seventh, there were only three small papillomata left, at the fraenum. After the eighth, and last, these three remaining growths dropped off, leaving the organ absolutely free and with not even a trace of papillomata.

Intraventricular Pressure in Various Diseases of Children.—

Francioni (Der Kinderarzt) reaches the following conclusions:

1. The estimation of the pressure of the cerebrospinal fluid in various diseases is a valuable diagnostic aid and in many cases a strictly scientific indication for removing the fluid in the interest of therapeutics.

2. The pressure of the cerebrospinal fluid, which in a healthy child in the lateral position is 10 to 12 mm. mercury, is considerably and constantly augmented in tuberculous meningitis. The same is true also in hydrocephalus: in the latter disease, in which the height of the pressure should direct the therapy, a progressive diminution

of the pressure indicates a tendency to cure or improvement. The pressure is increased, but within narrow limits and regularly, in meningococcus meningitis and in purulent meningitides.

3. The pressure reaches a very high degree in all diseases in which alterations of the endocranial circulatory conditions exist.

4. In the acute stage of poliomyelitis increased pressure is constant, and this fact, combined with those furnished by the qualitative alterations of the cerebrospinal fluid, permits the assumption that in this stage a febrile reaction on the part of the meninges or a circulatory disturbance exists.

5. In rachitis there frequently is increase of pressure, which is explained by the mechanism of toxic stasis already suggested by Mya.

Brill's Symptom-Complex, Typhus, and Manchurian Typhus.—Friedman read a paper on this subject before the N. Y. Academy of Medicine. He said that Dr. Brill had described a disease, infectious, of unknown origin and unknown pathology, characterized by an incubation period of four or five days, a period of continuous fever, accompanied by intense headache, apathy, and prostration, a prouse and extensive erythematous maculopapular eruption, all of about two weeks' duration, whereupon the fever abruptly ceased either by crisis within a few hours or by rapid lysis within three days, when all symptoms disappeared. Brill was right in stating that that this disease was often taken by New York physicians for typhoid and this interpretation was incorrect. Neither did the disease in question have anything in common with the group of paratyphoid diseases, as was confirmed by the agglutination reaction in both instances. Brill in differentiating his symptom-complex from typhus fever said: "If it had been proved that typhus fever had lost its virulence, that it was constantly present in a community, that it was not communicable, that when it was present epidemics of it did not occur, and that it was no longer a grave and fatal disease, than the resemblance of the symptom-complex to this malady might be admitted." But Brill thought that with the description of typhus as the "great masters" had taught it and as he had seen it such a conception would be unjustifiable. Brill had failed to acquaint his readers with the view of modern or recent authors who had observed cases of typhus fever while possessing all the advantages of medical progress in differentiating other diseases from them, advantages which were absent in the times of "the great masters of medicine." The writer

was in active practice in western Russia for six years, during which time he had the chance to observe three epidemics of typhus fever and constantly was sporadic cases of the disease. The more the writer read Brill's descriptions the oftener he listened to discussions of the theme, the more inclined he became to identify Brill's disease with typhus fever. The fairly sudden onset of the affection, the fever curve, the duration of the illness, its termination, the nature of the eruption, the time of its occurrence, the intense headache, the relatively frequent occurrence of herpes labialis, the rapid convalescence, the occurrence of the disease in patients who had previously had typhoid fever, the frequent enlargement of the spleen, the complications involving the respiratory tract, all these the writer had seen in authentic cases of typhus fever occurring during epidemics and independently of them. Brill emphasized the intense headache which dominated the clinical picture; other observers dealing with typhus fever had laid stress on this point. To the writer this was one of the most striking features of typhus fever as he had observed it. In regard to the skin eruption the writer had seen cases of the maculopapular type, but likewise other cases showing a roseola and petechiæ, or petechiæ alone or roseola alone. Intestinal complications such as frequently occurred in typhoid fever had not come under the author's observation. Brill had stated that typhus fever did not occur in the summer, but this statement was only partially correct; whenever there was an epidemic in the winter sporadic cases occurred the following summer. The writer had seen a repetition of typhus in the same individual. Typhus was endemic in many districts of Russia, so that sporadic cases were of constant occurrence there. In many other districts where hygienic conditions were very favorable typhus fever was but little known, and if sporadic cases did occur they were of mild character. When sporadic cases running a mild course occurred in large cities they were usually not recognized, or were designated as "uncertain kinds of typhus." Typhus was also endemic in other countries. Virchow assumed that the endemic typhus of the Slav led to the epidemic outbreak in Berlin in 1867-68. In Edinburgh typhus was practically endemic at one time. In Ireland, Italy, and Bohemia the affection was likewise said to be endemic. De Arellane stated that typhus fever was not endemic in the capital of Mexico, but was always present in a very extensive zone in the Republic. An epidemic in Edinburgh in 1899 proved that after eighteen years of

immunity an epidemic might occur. From numerous similar instances they might conclude that in a community typhus might be present for a long time without leading to an epidemic. Dr. Friedman reviewed the history of the epidemic of typhus in New York and stated that the mortality of typhus epidemics had considerably decreased through improved hygienic conditions and modern sanitation. The mortality of typhus fever in hospitals and private houses was not appalling, ranging from six to nine per cent. In his sporadic cases there was rarely a death. Dillingham gave a description of "so-called typical cases" of typhus, and if they were carefully analyzed and compared with Brill's cases the identity would be apparent. The fact that mostly Hebrews were affected among Brill's cases must be remembered; this race was usually but mildly affected by typhus. The same had been shown to be true of the Arabs. Time alone would decide the question of properly classifying the symptom-complex so ably observed and described by Brill. In the meantime it did not seem to the author to be the part of wisdom to retain his nomenclature of a "disease of unknown origin," but rather call it New York typhus, just as the typhus of Pekin and of Manchuria had been named. This would go far in calling the attention of physicians to the clinical picture concerned and, moreover, not connote something surely rare and unusual. The name typhus need cause no panic for it was no longer equivalent to the terrifying news "Hannibal ante portas." Modern conditions had robbed this scourge of much of its terror.—Medical Record.

Salvarsan In Malaria.—Iversen and Tuschinski (Deutsche Med. Wochenschrift) have investigated the action of salvarsan upon the malarial parasite. The first report was based upon five cases of tertian fever, in which they had given 0.4 gram of salvarsan intravenously with excellent results. In the present report, the authors summarize their experience in 61 cases, presenting a great variety of malarial affections in persons of various nationalities. The remedy was given intravenously, as well as by the combined method; namely, by following the intravenous injection two days later by an intramuscular injection of an alkaline solution. The dose given intravenously was usually 0.5, while intramuscularly 0.3 was injected. The following conclusions were reached by the authors as the result of their experience: Salvarsan, when introduced in a single dose of 0.5 intravenously, produces a specific action upon every variety of malarial parasite. In tertian fever, the parasites usually disap-

pear after from 12 to 48 hours. The attacks cease. It is impossible to say, however, whether or not this effect is permanent. It is best to combine the intravenous administration of salvarsan with the intramuscular. In quartan fever the action of the remedy does not last, even after a dose of 0.8 gram. In the tropical form, doses from 0.5 to 0.8 can only produce a temporary disappearance of the ring-forms from the blood. The crescent form does not disappear, although it may become temporarily modified in shape and staining properties. In some cases of tropical malaria, a so-called contrary effect was noticed. After a temporary lowering of the temperature, a diminution or complete disappearance of the ring-shaped parasites from the blood, there takes place a distinct turn for the worse in the patient's condition, with a reappearance of rings and crescents in large numbers.

The Practical Methods for the Prevention of Gonorrheal Infection.—Guiard (Medecin Practicien) says the prevention of gonorrheal infection should consist, in the first place, of forcible urination after compressing the meatus in order to artificially raise the pressure of the fluid, as it passes through the urethra. This measure, however, is not sufficient in itself, nor are the simple or antiseptic washes which are recommended, because they do not reach far enough into the urethra. The best methods are those which prevent the entrance of the gonococcus into the urethra (cndoms), although even these do not offer absolute security. The use of lubricant ointments does not protect against the invasion of the gonococcus. Excellent methods of protection consist in the introduction of various antiseptics into the canal, such as nitrate of silver or protargol, but the strength of these solutions, as usually employed, is too irritant and the small quantity used necessitates a restriction of their activity to a small portion of the canal. In the author's opinion, the best preventive method consists in the injection of solutions of potassium permanganate, through the entire anterior urethra. The strength of these solutions should vary from one part in ten thousand to one part in five thousand. If thoroughly carried out, these injections constitute the safest and best preventive measures against gonorrheal infection. The preventive irrigation should be carried out within two or three hours after exposure. The necessary material for these injections is as follows: (1) A syringe graduated in cc. holding 25 cc. which should be kept in a test-tube filled with potassium permanganate solution. (2) A graduate holding 250 cc.; (3) a stock solution of potassium per-

manganate, one part in a thousand; several litres of sterile water, and a small gas stove or alcohol stove. The solution should be freshly prepared, with sterile water. The patient should be instructed how to make up the solution and how to inject it. The anterior urethra should be filled with the solution, which should be held therein for a few seconds. This should be repeated five or six times. If the injection is delayed for 12 or 15 hours after exposure, it should be repeated several times in the same manner at intervals of 10 or 12 hours.

The Technique and Indications of Breast-Feeding.—Weiss (Mediz. Klinik) contributes a paper on breast-feeding. The data upon which the Dr.'s study is based are derived from the working classes of Vienna. The writer concludes from his statistical investigation that, while the habit of breast-feeding is still prevalent among the population in question, there is a deplorable tendency to shorten the period during which this feeding is carried out. Thus, among 300 women who had been nursing their infants, 75 were studied with the object of determining the duration of breast-feeding. Of these women, 21.3% nursed for the first time, the baby being the first child. With 2.6% the period of nursing was of the same length as that which the previous child had been subjected to. In a third group only 54.6%, the last child was nursed for a longer period on the average than the previous children. In this last group, the influence of the social work of the "nursing center" was demonstrated. Finally, 18.6% of the women under scrutiny were nursing the last child for a shorter period than their previous children. Another group of women nursed their infants up to the third month in 11.2% of cases; up to the sixth month in 34.3% of cases, up to nine months in 29.5% of cases, and over nine months in 20.9%. The modern viewpoint that almost every mother can nurse her infant if she really tries earnestly and goes about it in the right way should be the guiding principle in all the movements for the promotion of breast-feeding. The fact that even starvation does not necessarily prevent a woman from nursing at least for a time has been demonstrated at the siege of Paris and also more recently at the earthquake in Messina. Poor nutrition is not an insuperable obstacle, and social conditions are not of any practical importance so far as breast-feeding is concerned. Naturally, however, good feeding for the mother is a great help in nursing. The diet should be regulated according to individual preferences and not planned out according to a rigid scheme. The only point of import-

ance is to forbid absolutely the use of alcoholic liquors. The mother should get plenty of sleep, and for this purpose the night feeding should be properly regulated. Much has been said about the influence of the mind upon the secretion of milk. There are some very striking phenomena in this connection; thus, the spirit of rivalry among a number of nursing women will often be effective in producing a greatly increased milk supply. This has been noted in maternity wards, etc., and is not altogether due to the treatment or diet.

Alcohol for Hand Disinfection.—Schumburg, in the *Deutsche Medizinische Wochenschrift*, says that washing the hands with strong alcohol is a most effective means of removing all infection and rendering any bacteria innocuous. He says that 200 c.cm. of alcohol applied with a pledge of cotton-wool are sufficient to disinfect the hands to the extent of 99 per cent. or more of all bacteria present. Ordinary methylated spirit is quite effective. From experiments in the medical department of the Prussian Ministry of War it appears that washing with soap and water combined with even prolonged scrubbing with a brush does not remove the microbes, the soap softening the skin and making the bacteria more adherent. Alcohol, on the other hand, by hardening the skin, causes the bacteria to become rapidly detached. To secure proper disinfection with alcohol the preliminary use of soap and water must be dispensed with, the reasons given being that the residual moisture, even after drying, dilutes the alcohol, and further that the softening of the skin by water causes it to contract too strongly when the alcohol is applied, and by rendering it rough and scaly encourages the transference of bacteria from the surgeon's hands to the wound. Inasmuch, however, as the wearing of gloves for operations has been now so generally adopted, disinfection of the hands has not the same importance that it once possessed for the success of aseptic surgery.

Atropine as a Preventive of Complication from Ether.—Henley (Dublin Journal of Medical Science) says that atropine administered internally diminishes the secretion of bronchial and tracheal mucus, and also diminishes spasm of the muscular coat of the bronchial tubes by its action in paralyzing the peripheral nerve fibres of the vagus. There are other actions when moderate doses are administered—viz., increase in blood pressure and increase in frequency and depth of respiration. The most important results are the diminution in the secretion of mucus and the lessening of bronchial spasm. The method of administration he

has adopted is to give 0.01 grain atropine sulphate hypodermically about fifteen minutes before commencing the induction of anaesthesia, and repeating the injection if the patient shows any signs of mucus, however slight. He has never seen any trouble or complication arising out of the administration of atropine, and the results, as far as mucus secretion is concerned, have been satisfactory. The atropine in all cases diminishes, and in most cases inhibits, the secretion of mucus, and the anaesthetist is spared the necessity of frequently swabbing out the throat, to the patient's, the surgeon's, and his own comfort. The recovery of the patient is much more rapid, and post-anaesthetic sickness is uncommon, a result which he thinks may be attributed to the absence of mucus, the presence of which in ordinary cases is responsible for a good deal of vomiting, the secretion having been previously swallowed.

Post-Operative Complications of Suppurative Frontal Sinusitis.—Sieur and Rouvilloist *Revue Hebdomadaire de Laryngologie*) have gathered the following statistics of complications that occurred after the external operation on the frontal sinus: Two hemorrhages, seventeen orbito-ocular disturbances (deformities of the eye-lids, diplopia, phlegmone of the orbita, atrophy of the nerve head, optic neuritis caused by pyaemia or thrombosis, etc.), three osteomyelitis, two thrombophlebitis and septico-pyaemia, three slight and twenty-seven serious meningitis, in the latter being included extra- and intra-dural abscesses and three abscesses of the brain.

After intra nasal operation of the frontal sinus encephalitis, meningitis, fracture of the apophysis of the crista galli and other complications occurred. The predisposing moments from the side of the patient are: The "milieu" (in winter there are more infections in a hospital than in summer), age, sex, general condition of the patient (lues, phthisis, infectious diseases, especially scarlet fever), local conditions (anatomical abnormalities, dehiscences, involvement of other sinuses) and virulence of the affecting bacteria. The predisposing moments from the side of the operator are: Damage done to neighboring organs, infection and incomplete operation.

As prophylactic measures the writers advise the removal of the middle turbinate and of all polyps and the curetting of the ethmoidal cells intra nasally, before the external operation is resorted to; the latter should always be performed under local anaesthesia, as by the mask and the other appliances of general anaesthesia infection is liable to occur. The trepanation of the

bone, the curetting of the frontal cavity and of the ethmoidal cells must be done with utmost care and thorough external and intra nasal drainage has to be established.

They come to the conclusion that no more postoperative complications of suppurative frontal sinusitis will occur, when the specialists will finally be thorough clinicians while making the diagnosis and perfect surgeons, mastering the most recent technic, while operating upon the patient.

Operative Treatment of Badly United Fractures.—Lane (*London Medical Lancet*) reports two cases, one of which was a badly comminuted fracture of the femur which was operated on five months after the bone had been broken, and the other, multiple fractures of the tibia and fibula operated on twelve weeks after the injury. Both cases had been under the care of very eminent surgeons and in neither, apart from operation, was there the slightest prospect of restoring the patient to active usefulness. Both cases are illustrated by radiograms taken at intervals. They are of particular interest since they show the manner in which callus serves to render secure the junction of a broken and deformed bone in which it has been impossible to obtain any large area of bone apposition without shortening the limb very materially and so reducing its usefulness and the symmetry of the individual in a corresponding degree. They also show that the crystallization of lines of force takes place progressively in a marked manner later in life and for a long period after the union of the fractured ends has been effected. This entails the careful retention of the leg for a considerable time in an apparatus by means of which the weight of the body is transmitted from the tuberosity of the ischium to the foot. Such an apparatus enables the patient to get about at an early stage of convalescence, while the gorging of the limb with blood consequent on the dependent position of the leg during locomotion assists very materially in the formation of callus. Lane urges that great care should be taken to encourage this engorgement within reasonable limits and to avoid any direct pressure on the seat of fracture which is likely to reduce its blood supply.

Sunlight in the Revolution in Treatment of Surgical Tuberculosis.—Bardenheuer (*Deut. Zeit. f. Chir.*) has been one of the leaders in and most successful exponents of surgical treatment of tuberculosis of bones and joints, but he had occasion not long ago to examine the effects of systematic sunlight treatment of such tuberculous lesions in thirty-nine cases, including eighteen adults, and comparing them with the

records of 371, all from the practice of Rollier at Leysin near Geneva, Switzerland. This experience has convinced him that far better results can be obtained with sunlight, without mutilating operations. Rollier restricts surgical measures to puncture of abscesses, although he was trained in surgery under Kocher. The joints heal without stiffness under the action of the sunlight and stiff joints become supple. Although only the severest cases are sent to Rollier, yet 284 of his total 371 patients were cured, that is, 78 per cent.; 13 per cent. improved; 6 per cent. are still under treatment, and 4 per cent. have died. The list includes sixty-one with tuberculous spondylitis, twenty-seven with peritonitis or enteritis, and sixteen with kidney or bladder tuberculosis, including five after nephrectomy. Bardenheuer now declares that operative treatment can generally be entirely avoided if the patients can have the benefit of mountain sunshine. He was so impressed with the amazing benefit from the sunlight treatment, even in apparently the most hopeless cases, that he applied it in thirty-five cases after his return home to Cologne, and states that he has been delighted with the results. One of Rollier's patients was a woman of 42 with an inherited taint. She came to Leysin in March, 1909, with a tuberculous affection of both sacro-iliac joints with numerous abscesses and involvement of the ilium on both sides. In the course of the year two liters of pus were evacuated by puncture repeated forty-five times. Bardenheuer tried to cure in two cases of this kind by extensive resection of the bones, but failed in both cases. In Rollier's case above mentioned, however, the patient was completely cured by July, 1911, and then returned home weighing over 37 pounds more than when she arrived. The children run around very lightly clad, even in winter, or lie almost naked, on a balcony. In Cologne Bardenheuer had the lesions on his patients exposed to the sunlight for fifteen minutes three times a day, rapidly increasing to two or three hours, morning and afternoon or all day long, except in midsummer. As he had no facilities for sun baths he simply had the patients placed at an open window where the sun could reach the lesions. The patients enjoy the exposures and laud the sunlight treatment to their friends. He adds that it may prove a useful adjuvant to operative measures, hastening healing, and he thinks that sanatoriums might advantageously introduce local exposures of the chest in cases of pulmonary tuberculosis. He calls it the heliotrope method, from the Greek roots meaning to turn to the sun.

Decrease of Refraction in Diabetes Mellitus.—Gallus (Arch. f. Aug.) reports nine cases of sudden visual disturbances from decrease of refraction and four cases of gradual decrease of refraction. The acute cases present a very characteristic clinical aspect: "About simultaneously or soon after the manifestation of severe diabetic symptoms, thirst, weakness, emaciation, relatively high percentage of sugar without other pathological contents of the urine, an acute impairment of vision set in, which was characterized by decrease of refraction and in all, so far repeatedly examined, cases disappeared after a short time under considerable improvement of the general disorder." With Gallus' cases now altogether twenty have been published. In many also slight disturbances of accommodation were observed, which this author, with Schmidt Kimpler and Groenouw, attributes to general weakness. He considers this presbyopia praecox in patients of middle age as a possible symptom of diabetes if other weakening diseases, loss of blood, glaucoma, etc., can be excluded. Paralysis of accommodation and the ocular muscles is very rare in diabetes. The radius of the cornea was not changed, and intraocular tension not decreased, excepting a case of Sourdilles, although, according to Heine and Krause, a considerable decrease of tension occurs in diabetes, viz., in coma. The author devoted especial attention to the examination of the lens, but found in none of the cases any trace of opacity. This is in concordance with the other authors excepting Lundsgaard who observed this in one case. The fundus was normal in most cases published. In all but two cases, 17 and 21 years old, the age of the patients was from 42 to 63 years. The percentage of sugar was very high, up to 8%.

Gallus' cases throw no new light on the etiology of the affection. With regard to its diagnostic value for diabetes, he says that literature contains no cases in which other general diseases were at the origin of the affection. But after devoting special attention to the theme, he saw two cases of liver and gall troubles which perhaps belonged in this category, and a girl with severe tuberculosis, whose accommodation, however, was absolutely intact.

According to Gallus' material, increase of refraction is rarer than decrease. He saw it with and without cataract, but it has nothing characteristic. The frequency of astigmatism against the rule is striking. It plays an especial roll in diabetes. Gallus made similar observations as Kako, whose patient showed perverse astigmatism with each occurrence of sugar. The gradually developing decrease of refraction, extend-

ing over years, illustrated on four clinical histories, had a great similarity with the behavior of senile hypermetropia, and seemed to be a sign of premature senium.

Hemoglobinuric Fever in the Isthmian Canal Zone.—Deeks and James (The Medical Press, London). The Isthmian Canal Commission has issued a comprehensive and interesting report by the authors, of the Ancon Hospital, on the etiology and treatment of blackwater fever, a disease which these investigators believe to be a special clinical form of malarial infection.

The thesis itself is eloquent evidence of the thoroughness with which the Commission has approached the problem of changing a district, which used to be given over to yellow fever and malaria, into a more or less healthy working ground for black and white men.

The authors admit that these diseases are by no means stamped out, and that it is only by unremitting vigilance in the matter of sanitary precautions in the fullest sense of the term that they are held in check, while any relaxation would immediately bring about a return to former conditions.

The men working on the canal are divided into three classes: Americans, including skilled mechanics and the responsible executive, constructive and administrative officials, European laborers—mostly Spaniards and Italians, and West Indian negroes, mostly from Jamaica and Barbadoes. The difference in the malaria distribution between these three groups is due to the greater individual care and better observance of sanitary regulations on the part of the Americans, who are consequently less exposed to infection and less liable to relapses, while the negro race shows a relative immunity to malaria which saves it from the consequences of its method of living and notorious neglect of sanitation.

There are four alternative suggestions as to the cause of blackwater fever:

1. It is the manifestation of an active malarial infection.
2. It is the result of quinine poisoning.
3. It is due to a specific organism.
4. It is the result of a previous malarial infection.

The evidence of the cases in the Ancon Hospital leads the authors to conclude that none of the first three hypothesis is tenable, and the result they emphasize is that there are three conditions which suggest themselves as exciting causes for the production of the hemoglobinuria. First, renewed malarial attacks productive of sufficient toxin to overwhelm the red blood cells; second, a lowering of body resistance by any of the causes that are associated with malarial

relapse; third, the administration of quinine, which may act either by depressing the circulation or as a toxophore radical for the malarial hemolysin. After determining the etiology, the authors enter with some detail into the treatment of the condition, and give several exhaustive charts which add greatly to the clearness of the brochure.

The authors' conviction that the malaria parasite is the essential cause of blackwater fever, is the most important feature of their work. In the last edition of his "Tropical Diseases," Sir Patrick Manson states that the etiology of hemoglobinuric fever is one of the most important problems in tropical medicine yet unsolved. The authors seem to show conclusively the association of this symptomatic syndrome with malaria, and if their results, hurried as they must be in such a report as this, are found to bear the test of subsequent observation, they have played no small part among those workers whose object it is to make life possible for the white man in what were till lately the plague spots of the earth.

Acute Hemorrhagic Pancreatitis.—

Monnier (Wiener klin. Wochenschr.) has given a graphic description of this condition. The patients, apparently healthy and usually corpulent, experience suddenly more or less severe pain in the epigastrium. This is often described as a cramp and may become so intense as to lead to collapse or syncope, and is but slightly relieved by large doses of morphia. The pain usually extends around the left side or to the left shoulder or into the left lower abdominal region, although occasionally it may be localized in the right side or even in the region of the appendix. At the same time vomiting and nausea ensue, the abdomen becomes more and more distended, and the intestines are soon paralyzed with resulting symptoms of ileus and peritonitis; the face often assumes a peculiar yellowish-brown color; the vomiting is mostly of biliary character; the pulse is accelerated, there is a moderate increase of temperature, and marked restlessness and general debility exist. Frequently the presence of an exudate in the abdominal cavity can be distinctly determined by percussion. The condition speedily changes for the worse, as shown by the heart action and pulse, and the patient dies with symptoms of peritonitis and ileus, death in severe cases occurring in the course of two or three days. In the differential diagnosis, the following points are of importance: In the first stage of hemorrhagic pancreatitis the abdominal walls are easily compressible and the reflex rigidity of perforation peritonitis is absent. The peculiar facial appearance, obstinate

pain in the epigastrium, and usually higher temperature are unlike the symptoms met with in intestinal occlusion, and, moreover, it is possible to inject several liters of water into the intestine. On the other hand, the diagnosis from an atypical appendicitis is difficult, although the pain in the latter is much less intense and persistent and the cramp-like character is wanting. The condition also closely resembles an attack of cholecystitis or gallstone colic, but the pain is more prolonged and the rapid deterioration of the general state points to an involvement of the pancreas. Laparotomy and drainage are imperative in acute pancreatitis, and even if the patient has survived the acute stage operation should be resorted to because the abscess formation is progressive and the longer the delay the worse the prognosis.

Wassermann's Reaction in Children.

—Francioni and Menabuoni (The British Journal of Children's Diseases) after practicing this reaction in many cases, found it positive in the first few days after birth before objective symptoms were present. It was invariably positive in hereditary lues and continued so for many years, being little affected by treatment. It had, however, a limited value as proof of indirect hereditary influence on the offspring. They cautioned against regarding a positive result as an absolute indication for active treatment, since the reaction remained positive after repeated and energetic treatment.

Spolverini asked if the authors had practiced the cuti-reaction to tubercle when they had found Wassermann's reaction positive in children under one year without symptoms of syphilis. It had been asserted that in syphilitic adults the cuti-reaction was more marked than in those suffering from tuberculosis.

Cacioppo had found Wassermann's reaction positive in children with clinical symptoms, but not constant during the period between birth and the appearance of these symptoms—a period of the greatest importance as regards early diagnosis and prophylaxis.

Francioni, in reply, said he had made no special observations as to the relation between Wassermann's test and the cuti-reaction.

Injuries of the Abdomen.—Richard V. Hippel (Zeit. für Versich.) continues his consideration of this subject. He says that the stereotyped description of dullness in the right flank as due to injuries of the liver and of that in the left flank as due to injuries of the spleen is not at all applicable to all cases. The dullness due to the blood effusion may be found anywhere, according

to the various positions of the body assumed after injury. Liver dullness at first is unchanged; soon after injury it may be increased because of the collection of blood near the liver, later it may diminish because of the developing meteorism or dislocation of the liver itself. With the development of peritonitis liver dullness progressively diminishes. The same signs may accompany injuries of the spleen. Fortunately, however, it is not important to decide which organ is the seat of injury and hemorrhage, for an abdominal section is indicated in any case. Surgeons, too, should not be so inclined to wait until the symptoms of shock have entirely subsided. Shock will usually disappear with the cessation of hemorrhage, and frequently this stilling of hemorrhage can only follow an operation.

Injuries of the stomach usually give signs of free air in the peritoneal cavity and a metallic percussion note or simple hyperresonance, changing in site with change in position of the patient, should be diligently sought for. Circumscribed dullness, if found, should be immediately marked out on the abdominal wall; it may be due to an exudate and the increase in size may clinch the diagnosis. Larger area of dullness usually mean perforation of the small intestine with the infection of the peritoneal cavity by a considerable quantity of fecal material. Of course, none of these signs may be present in any given case. If, a short time after injury, the pulse is quickened, tenderness and reflex spasm of the abdominal muscles have appeared, there is spontaneous pain on deep inspiration, and the patient has become somewhat restless, injury of the intestines must be suspected, if there are no signs of extensive internal hemorrhage.

Ruptures of the urinary bladder are usually accompanied by fractures of the pelvis. Direct injury may rupture an overfilled bladder and this usually happens in drunkards. Vesical tenesmus, ineffectual or resulting only in the appearance of a few drops of blood at the meatus, is a very frequent symptom. Catheterization usually confirms the diagnosis; the difficulty is in deciding whether extraperitoneal or intraperitoneal rupture has taken place. V. Hippel closes his lengthy paper with the urgent advice to send all patients in whom an intra-abdominal injury is suspected to a hospital, so that immediate operation may be performed if the suspicions are confirmed by further study of the symptoms.

Abdomino-Rectal Gymnastics in Chronic Constipation.—Fernet (Journ. de Med. et de Chir.) says that for the rather frequent cases of functional constipation

without an organic basis, he advocates systematic abdominal and rectal gymnastics. Every morning the patient, before rising, lies flat on his back and with shut mouth takes five or six slow, deep inspirations as purely abdominal as possible. The two hands placed upon the abdomen enable the patient to gauge the depth of the respiration and are of appreciable aid in carrying out this procedure. After a few moments' rest, the deep respirations are repeated and so on, four or five times. These respiratory gymnastics put into action successively the diaphragm and the abdominal muscles and produce an efficient massage of the organs contained in the abdomen. In the intervals between the deep respirations, a light colonic massage may be practiced in the usual manner. Often this results in a desire to defecate, which should, however, be resisted.

After breakfast, which should be slowly eaten and carefully chewed, the patient goes to the closet. If defecation does not result spontaneously, the respiratory gymnastics should be resumed, alternating with anal exercises. These consist of alternate gentle attempts at defecation and retention, being thus alternate contractions and relaxations of sphincter and levator ani. This will usually result in a movement; if it does not, the rectum should be washed out by means of an enema. If persisted in, this procedure will usually result in the establishment of daily, spontaneous evacuations. Where it fails absolutely, the cause is either some anatomic lesion responsible for the constipation or a failure, on the part of the patient, to carry out accurately the instructions outlined above.

Treatment of Diabetes.—Noorden (British Medical Journal) holds that the older view of the causation of diabetes, the view, that is, that the hyperglycaemia of diabetes results from an overproduction of sugar in the liver rather than from diminished oxidation in the tissues, is the true one, and that it is no longer a theory, but is supported by a considerable body of evidence. Thus in Bernard's puncture glycosuria only occurs if the liver is filled with glycogen and in this form and in glycosuria due to certain forms of poisoning, as, for instance, poisoning by diuretin, the glycogen of the liver is quickly used up, while there is nothing to indicate that the power of oxidation of sugar by the tissues is diminished. The study of glycosuria caused by adrenalin is even more confirmatory, for if large doses be given and no more glycogen is available from the liver, fats and proteins are broken down to form sugar, and it is thus seen that adrenalin is an active pro-

motor of the sugar-forming process, while there is no sign at all that it lessens the action of the tissues upon the sugar in the blood. Again, the respiratory quotient, that is, the ratio of the carbonic acid products to the oxygen used up, is strikingly low in diabetic patients. The conclusion that the low co-efficient depends upon lessened oxidation is hasty, for it may be that the action of the tissues upon the sugar in the blood is normal, but that as a result of faulty metabolism in diabetes, fats and proteids have gone to produce the sugar in the blood. The liver has long been recognized to be the regulator of the sugar contents of the blood, but the pancreas and the suprarenals are now also known to be concerned in the process. The author's opinion is that anomalies of the pancreas, usually functional, play a leading part in by far the greater number of cases of diabetes mellitus whether slight or severe, but that the suprarenals seem to play the chief part in acute transitory cases of glycosuria. The conclusion that diabetes depends on over-production of sugar has a bearing upon questions of treatment.

Salvarsan For Infants and Young Children.—Bokay (Wien. Klin. Woch.) discusses the action of salvarsan in 26 cases of syphilis in infants and young children. Thirteen of the patients treated were under a year old; 23 out of the whole 26 suffered from congenital syphilis, and 10 out of the 13 babies. The youngest baby was five weeks old. All were fairly well developed and well nourished breast-fed infants. At first the initial dose was 0.005 gram per kilogram of weight, but later this was increased to 0.008 gram and to 0.01 gram per kilogram. Weichselmann's neutral suspension was found a more satisfactory preparation than the neutral or slightly alkaline solution in methyl alcohol recommended by Ehrlich, because it caused a smaller and more quickly disappearing infiltrate, and as a rule no subsequent pain. One child was treated indirectly through the mother, but with only partial success; later salvarsan was given directly to the child and the symptoms disappeared. Three injections were given in one case, two injections in each of nine others. Second injections were given when either the symptoms were slow to improve, or Wassermann's reaction remained positive. All but one of the injections were intra-muscular, none were intravenous. The injection was followed by high fever in three cases only, but in all cases fever had disappeared by the third day. The increase in weight of the infants while under observation was fairly satisfactory, especially since the weight tends to

remain below the average in infants under mercuric treatment. During three months one baby put on 3,100 grams (6.8 lbs.), another 2,200 grams (4.8 lbs.), and a third 1,500 grams (3.3 lbs.). The children did not suffer from digestive disturbances as a result of salvarsan. Fourteen of the cases were under observation for more than four months, six from two to four months, and the remaining six for rather less than two months. Altogether three relapses were observed, one of them three months after a second injection, another four months after a first injection, and another ten weeks after injection in the child who had received a preliminary indirect treatment; in two of the cases relapses occurred in spite of the fact that Wassermann's reaction had become negative. The cutaneous manifestations of syphilis and those of the mucous membranes improved with wonderful rapidity under the treatment. In two cases of osteochondritis cubitorum improvement was very rapid, and in one of them after two weeks, in the other after three, the symptoms had altogether disappeared. Salvarsan was given in four cases of keratitis parenchymatosa in congenital syphilis, and the author is of opinion that it is a valuable agent in such cases. There was considerable improvement in a case still under observation of syphilitic cerebral tumor, with hydrocephalus and already developing optic atrophy; here two injections were given and lumbar puncture performed between the first and second injection. In a case of moderate hydrocephalus internus without functional symptoms, it appeared to the author, during an observation which extended over several months, that the use of salvarsan had brought the process to a standstill, but in another of hydrocephalus with severe spastic symptoms no improvement occurred. It appeared from the cases that Wassermann's reaction might be expected to change to negative at the end of the sixth to eighth week, having become gradually less marked before that time.

The Choice of Tuberculins.—Bluemel (Muench. med. Wochenschr.) says that the number of tuberculin preparations on the market is truly bewildering. Many of them, he says, have absolutely no therapeutic value, and of those which are really active, the difference between the various ones lies simply in the concentration and absorbability of the preparation. The Koch tuberculin and the tuberculin of Landmann accomplished everything that lies within the power of tuberculin therapy, and are to be recommended because they are easily obtainable, and of standard quality. The most important factor in this method of

treatment still remains—the skill and intelligence of the physician. He must be able properly to graduate the dosage and to recognize harmful effects of too large or too frequent dosage. In proper hands he believes the tuberculins have a decided place in the treatment of tuberculosis, but he reminds the reader that a faulty application can make the best therapeutic agent useless.

Action of Cocain and of Stovain on the Cardio-Vascular System.

As experiments upon guinea-pigs have proved unsatisfactory, Kamenzorr has recently investigated the physiological action of cocain and stovain on dogs. Cocain, he finds, excites a pronounced vaso-constrictor effect accompanied by rising blood pressure, and, as a rule, slowing of the pulse. Later tachycardia may occur as a result probably of irritation of the excitomotor apparatus in the heart. Stovain, on the other hand, causes vaso dilatation, with, as a rule, increased rapidity of the pulse and fall in pressure; the fall being specially marked in those animals in which tachycardia does not occur. The writer concludes from the above results that syncope is never to be feared from the administration of stovain. —Archiv. Internationale de Pharmacodynamie et de Therapie.

The Reaction of Agglutination and Precipitation in the Early Diagnosis of Pulmonary Tuberculosis.

Felici defines agglutination as a loss of mobility and grouping of masses of bacteria free and suspended in a culture medium. Agglutination occurs only with an acute infection and persists for a certain period. From the experience of the author and other observers it appears that in tuberculosis the power of agglutination may be of importance, not appearing at all in healthy persons. If agglutination occurs in suspicious cases it has positive value as a diagnostic aid. Chronic cases should always be tested by this means. In apparently healthy persons, if it is found positive, it may indicate the presence of a tuberculous process that has lately healed.—Gazzetta Medica di Roma.

Mississippi Valley Medical Association.

Officers of this Association, elected at its last meeting in Nashville, Tenn., for the ensuing year are: President, Dr. Louis Frank, Louisville; vice-presidents, Drs. Albert E. Sterne, Indianapolis, F. W. Werner, Joliet, Ill.; secretary, Dr. Henry Enos Tuley, Louisville (re-elected); and treasurer, Dr. Samuel C. Stanton, Chicago. The next meeting will be in Chicago, in the fall of 1912.

Quinine Hypodermically.—Smith (Indian Medical Gazette) says since 1899 he has treated all except dispensary out-patients, suffering from acute malarial fever, by the hypodermic injection of quinine, and in addition during the last five years, in order to prevent a possible recurrence of malignant tertian or any fresh infection, he has given a hypodermic injection to every patient who has been anesthetized, just before he comes round, and one or two consecutive days to all in-patients suffering from acute diseases such as pneumonia, typhoid fever, smallpox, etc. In the twelve months from October, 1909, when he was civil surgeon at Quetta, the number of injections given must have been between three and five thousand. In Baluchistan a malignant malaria with acute gastric symptoms is prevalent, which may be counted upon to recur at inopportune moments. Here on account of expense the solution of quinine bishydrochloride was more often used than the hydrobromate. In no case did tetanus result nor inflammation of any sort.

The method of sterilization used is as follows: For each injection a glass syringe, a needle, a nail brush, and two or three swabs are placed on a piece of lint and boiled from five to ten minutes; the lint is then wrapped over the instruments and all are placed in a sterilized towel. If a solution of quinine is being used, that is boiled; if the tablets, a teaspoon is sterilized. At the bedside a small area of the patient's arm is well scrubbed with the brush and soap, then rubbed with some force with one of the swabs soaked in 1 in 20 carbolic acid, and another swab is placed on the prepared spot. A tablet is then placed in the sterilized spoon, ten to fifteen minims of water is poured over it, the whole is boiled over a spirit lamp, and the tablet broken up with the point of the needle. The solution is then drawn up into the syringe, and this is placed in carbolic solution until it is quite cool and then injected, the needle being at the same time gradually withdrawn, so that the fluid is distributed along its track and does not tear up room for itself in one spot. The solution in cooling becomes opaque, but this does not interfere with its efficacy. When he first used these tablets twelve years ago, in one or two cases pain and a slough resulted: this was in no way due to the quinine, but to his anxiety to make the injection before the solution became opaque, and was caused by the heat of the water. No such contretemps have occurred since.

The site of injection is afterward gently massaged with a swab. Occasionally there is slight pain for perhaps a day, but this is the exception.

In the majority of cases of malaria two injections at an interval of twenty-four hours are sufficient to bring the temperature to normal, or in case of other disease to eliminate malaria.

At each injection he never gives more than 2 grains of quinine, in not more than 20 minims of water. The use of larger doses is to be deprecated, as the smaller amount produces the full pharmacological action of the drug.

Sprue and Ankylostomiasis.—Macdonald (Australasian Medical Gazette) says^s that the treatment is very effective, and it is^s nothing short of marvelous how some patients on the brink of the grave are in a few days restored to active health. Thymol, oil of eucalyptus, and chloroform and beta-naphthol are the remedies, but in the administration of these remedies there must be no trifling with small doses, for it is a fact that if small, inadequate doses be frequently given the parasite becomes immune to the remedy, and it is then a matter of difficulty to dislodge it. Before giving any remedy the patient must be starved for twenty-four hours, and saline purgatives given. The adult dose of thymol is half a drachm every hour for three doses, given in a cachet, and a purgative given four hours later. With thymol, care must be observed that no alcohol, oil, or glycerin be taken, as they are solvents, and grave toxic symptoms may supervene. The patient should be kept in bed for half a day. The adult dose of oil of eucalyptus is 30 minims, chloroform 40 minims, castor oil 10 drachms. This mixture, given after preparation of the patient, is, the writer thinks, the best remedy, not being so toxic as thymol and is easier taken, especially by children, for whom, of course, the dose is much smaller. Beta-naphthol is effective and safer than either of the above. The adult dose is 15 to 20 grains, repeated three times at hourly intervals, and a purgative given four hours later. If eggs are found in the stools after either of the above treatments, the dose should be repeated in a few days. Tonic treatment is rarely required, as patients, dreadfully anemic, begin to show color in the face even twenty-four hours after successful dosing.

A Note on Scopolamine in Normal Labor.—Wallace (Liverpool Medico-Chirurgical Journal) says that while morphine alone might be given to allay the suffering in labor, it is scarcely necessary to point out that it would also interfere with uterine contractions, lessening both their power and frequency. Scopolamine possesses the advantage that it brings about a condition of drowsiness without interfering, or only in-

terfering in a minor degree, with the force and frequency of labor pains. It seems to possess also some power of softening or relaxing the soft passages.

To obtain these beneficial effects it is necessary to pay close attention to dosage and to the time and method of dosage. To give a hypodermic injection of scopolamine, and thereafter to leave the patient to her own devices, or in charge of a nurse, is only to court failure and disappointment. Scopolamine is somewhat uncertain in its effects, and the dose that proves sufficient for one patient may not appreciably affect another, or may produce a condition of narcosis in which uterine contractions are weakened in force and diminished in frequency. As in the case of most drugs, the effects of scopolamine are proportionate to the size of the dose.

1. An insufficient dose has little effect in allaying suffering, but it often seems to set up marked thirst.

2. The proper dose brings about a drowsy state, in which sensibility to suffering is dulled and the recollection of it abolished—i.e., a state of amnesia is produced. The result of such a dose is that the patient not only suffers but little from labor pains, but she has afterwards no recollection of the suffering. This is the desirable state of amnesia, which is the aim and end of the use of scopolamine.

3. A dose in excess of that needed to produce amnesia results in narcosis, in which uterine contractions are lessened both in power and frequency—an artificially induced inertia of the uterus, with consequent prolongation of labor.

It is therefore apparent that haphazard dosage cannot obtain the best results from scopolamine, especially as the desired amnesia is sometimes difficult to produce. The reason for this is that the amnesic zone is a narrow one, and the step from mere insufficient effect to narcosis is short, so that if too big a dose be given the amnesic stage may be so transitory as to escape notice. Success, therefore, depends on individual attention to each case; for, in short, the dosage is a matter of experiment with each patient. It is better to give two doses of gr. 1-100 than a single dose of gr. 1-50, or to follow the first dose of gr. 1-100 by two or three smaller ones until the amnesic state is attained, after which its maintenance is an easy matter. This is the crux on which success depends, and the neglect to observe it has been responsible for some unfavorable comment on the drug and its uses.

The Dose.—Experience has shown that the minimum first dose of any value is gr. 1-100. Tablets of this strength are prepared; roughly, each is equivalent to about

0.0006 gramme. Solutions of scopolamine do not keep well, but they are preferable when the drug is being used regularly, as the dosage is then more exact, and approximates precisely to that employed by observers who have made a study of the subject. A solution of which ten minims contain 0.0003 gramme (i.e., about gr. 1-200) is a convenient one to use. With the first dose of scopolamine is given morphine gr. 1-12 to 1-6, but subsequent doses of scopolamine do not usually require the addition of morphine.

Time of Administration.—Scopolamine may be given either during the first or second stage. When administration is begun in the first stage, care must be taken that the initial dose is not given too early. The pains should first have acquired their characteristic rhythm, or, in plainer language, labor must be in full swing. In the case of a primipara whose uterine contractions are irregular and very painful, the use of scopolamine may give relief, but it will certainly delay the labor. Apart from this, the time at which the drug is administered seems to matter little, except that, of course, there is nothing to be gained by giving it at the close of the second stage, as the child will probably be born before any effect is noticeable.

Method of Administration.—This is, of course, hypodermic, with the usual aseptic and antiseptic precautions. A dose of gr. 1-100 is given, let us say, to a primipara whose os is three-fourths dilated. Immediately afterward some article in the room is shown to her, say a cup ornamented with a distinctive pattern. She is asked what it is, and replies "A cup." To the question whether she would know it again she says "Of course." At the expiration of half an hour the same cup is again displayed before the patient, who now may be more or less drowsy, so that it is necessary to rouse her. If the amnesic condition has been attained, she may reply "It's a cup," when asked, but she will stupidly deny having ever seen it before—i.e., her power of recollection has become abolished. But if the patient not only names the article but recognizes it as something she has seen before, then the dose has been insufficient and a further one must be given, after which the cup is again shown to her. In some cases several doses are requisite before the amnesia is definitely established, but the total amount rarely exceeds gr. 1-50.

Axioms and Experiences in the Treatment of Tubal Pregnancy in the Early Months.—Fehling (Archiv. fur Gynakologie) says that tubal rupture and tubal abortion are often combined and a differential

diagnosis is not possible without the use of the microscope. Rupture of a gravid tube is due to long continued disturbance caused by embryonal elements, and is almost always accompanied by free and excessive hæmorrhage into the peritoneal cavity with acute anæmia, from which death occurs unless operation be undertaken. If the bleeding is not severe after rupture the site may be closed by adhesion to the intestine or mesentery. The diagnosis is easy if the patient is seen immediately after the accident, but if seen after the opening has closed, diagnosis may only be possible at the time of operation. He says that in tubal rupture a substance is present which delays coagulation, and thus explains why a small tubal opening bleeds so profusely. The distinction clinically between complete and incomplete tubal abortion is of great importance. In complete abortion, an otherwise healthy woman has severe abdominal pain, becomes collapsed and is acutely anæmic. The patient usually comes for operation within the first two days. In the latter case there is a history of amenorrhœa, followed after a longer or shorter time by recurring uterine bleeding, which may last many weeks and stimulate uterine abortion. Attacks of colic may occur, but usually there is a dull pain aggravated by exertion. Disturbances of the bladder are common, the pulse rate increases and the patient becomes bedridden. Every case of tubal gestation with rupture or hæmatocele needs operation, preferably by the abdominal route. It is advisable to remove as much blood as possible, because it is lost to the patient and it offers a suitable medium for the development of micro-organisms. By laparotomy bleeding is more easily arrested, the offending tube removed, and the other side dealt with if necessary. Only when a hæmatocele suppurates is vaginal section and drainage indicated. Fehling treated 170 cases at Strassburg and 130 at Halle. Of the 170 cases, 43 were ruptures with hæmoperitoneum, 7 were ruptures of sacculated hæmatocèles, 93 were tubal abortions with formation of hæmatocele, 3 were hæmatocèles which subsequently ruptured, and 24 were operated upon before rupture. Of the 50 cases with free abdominal hæmorrhage, 7 died, 5 of them within two hours after operation. The Dr. does not believe in the theory that infantile tubes are a potent factor in the ætiology of tubal gestation, for only 22 out of the 170 cases had never been pregnant. Where a careful examination was possible, in nearly half the cases, the opposite adnexa were diseased. The writer did not obtain good results from conservative treatment of the diseased tube of the non-pregnant side. Fehling main-

tains that the liability to tubal gestation is increased by the prevalence of gonorrhœal infection and unnecessary intra-uterine manipulation during labor, manual removal of the placenta being especially pernicious. Patients free from gonorrhœa and who are properly cared for during labor are rarely the subjects of tubal pregnancy. The Dr. only met with 10 cases in 1000 private patients.

Hydatid of the Uterus.—Giles (Proc. Royal Soc. Med.) mentions a case occurring in a single woman aged 32. For some time a swelling had been noticed in the lower abdomen, which was painless; menstruation regular and moderate, and she had been quite well until the previous month, when she had been troubled a good deal with nausea. On examination a rounded tumor was found above the pubes; bimanually the swelling had the feeling of a soft tumor, the size of a foetal head, connected with the front and left side of the uterus. A diagnosis of interstitial or sub-peritoneal myoma was made. On abdominal section the tumor was found to arise from the anterior and left aspect of the body of the uterus, cystic in character. Fearing some malignant degenerating condition a panhysterectomy was done with removal of the appendages. After the completion of the operation the tumor was cut into and its true nature discovered. The tumor had the form of a rounded cyst bulging out of the interior uterine wall and more prominent on the left side. It was 10 cm. in diameter, contained numerous daughter and grand-daughter cysts, and the characteristic hooklets were found on microscopic examination. The condition is exceedingly rare, only seven or eight cases being recorded in the literature.

Para-Articular Correction of Tubercular Ankylosis of the Knee-Joint.—Eckstein (Prager medicinische Wochenschrift) says that the para-articular correction of ankylosis of the knee-joint due to tuberculous has for its object the overcoming of a crippling deformity without danger of causing a recurrence of the tubercular infection. By this method the seat of the disease is not disturbed. It is essential to this operation that the tubercular affection should have been quiescent for at least two years—that is, that at least this much time should have elapsed without pain, abscess, fistula, or fever. The condition of the joint cleft and the bone ends must be determined by the x-rays. The object to be accomplished by the operation is to so nearly straighten the limb that the sole of the foot may be brought into contact with the ground with or without shortening of the limb, and to enable

the patient to dispense with all sorts of mechanical support. The procedure if carried out aseptically is entirely without danger, because it involves only the healthy tissues and healing quickly occurs. The operation, which is carried out with the aid of the Esmarch bandage, begins with a subcutaneous tenotomy of the tendons at the back of the knee. Then a supracondylar osteotomy is done, being careful to keep above the epiphyseal line in children. If the joint has been bent to an angle of near 90 degrees osteotomy of the tibia must also be done. This second osteotomy should be done several weeks after the first.

Furunculosis.—Smith (Bristol (England) Medico-Chirurgical Journal) mentions his treatment of boils as used in his own case as follows:

All the boils were painted with liquor iodi fortior, and when detected and painted whilst quite small simply withered up and gave no further trouble, and if allowed to develop to, say, the size of a shilling, they spread no farther, came to a head, and the slough separated in a comparatively short time.

After the boils had ceased to come there continued to appear pimples, which shortly became pustular, and with painting withered up, which clearly shows that the resistance had been increased, inasmuch as those same pimples two months earlier would have shown no signs of pus, but spread as an indurated phlegmonous mass affecting the inguinal glands. Six months later another boil came in the same region, and discovering that the staphylococcus pyogenes aureus was at work, an injection of 250,000,000 was given; and following this there came at least a dozen commencing boils, all of which were painted with liquor iodi fortior, and all of them aborted.

Whilst the injections were continued, at first at regular intervals, the boils steadily diminished in numbers, and there was no sudden outbreak of them as appeared six months later after the injection of a single dose of 250,000,000 cocci. From this it appears that the immunity acquired had to a great extent disappeared, inasmuch as a boil appeared, and after the large injection a negative phase was manifested by the sudden abundant crop of small boils.

Three months later a small boil began, and another three months after that, both of which were aborted by the application of liquor iodi fortior.

Although Bier's cupping has been highly lauded in the treatment of furunculosis, in the experience of the author (a most painful one) the application of liquor iodi fortior is far more efficacious, and this he puts

down to the following reasons:

First, the iodine application produces hyperemia in the skin and not in the fascia and subcutaneous tissue, as the author thinks the cup is more apt to do, especially in the case of boils which are situated for the most part in the soft parts, such as the neck, back, and gluteal region, when the skin is readily lifted up and drawn into the cup without very much stretching.

Secondly, the iodine application is constant and always acting, whether the patient be busy or otherwise.

Thirdly, the iodine destroys the germs in the surrounding skin.

In all acutely hyperemic states of the skin, whether they be due to sunburn, chilblains, toxic rashes, infectious fevers, or slight scalds, peeling more or less invariably follows, but the author states he has never seen the application of Bier's cup followed by any tendency to desquamation.

This may in part be due to the inefficient method of carrying out the application, for to keep the part congested one must be constantly busy applying the cup, a method which forbids one to do anything else; and if in a region where one cannot apply it with the help of a looking-glass, then it must prevent some one else from doing any work. It is quite impossible for a doctor on his rounds to apply the cup with any likelihood of doing good. In the case of iodine one can always apply it oneself; two and occasionally three coats may be necessary, but invariably within a short time the boil begins to mend.

Therefore we may presume that vaccine therapy is the most valuable constitutional remedy we have, but the immunity acquired is only temporary, whilst liquor iodi fortior is the most valuable and convenient local remedy.

Hyoscine-Morphine Anesthesia in Obstetric Medicine.—Giuseppi (The London Practitioner) reaches the following conclusions:

1. That the object of hyoscine morphine anesthesia is not to produce complete unconsciousness, but to produce twilight sleep, from which the patient can be roused at any moment, without her retaining any recollection of what has happened in the meantime.
2. That in hyoscine-morphine anesthesia we have an efficient means of controlling pain, and one that is practically safe, when ordinary precautions are taken.
3. That there is danger to the child, unless the fetal heart is carefully auscultated at frequent intervals.
4. That the course of labor is but slightly modified.
5. That the administration and repetition

of the injections must be gauged by the amount of suffering.

6. That morphine should never be repeated, but only hyoscine.

7. That the solutions for injection must be freshly prepared for each patient.

8. That the best dose is hyoscine hydrobromide grain 1-100, morphine sulphate, grain $\frac{1}{4}$.

Two Chemical Tests for Gastric Carcinoma.—Oppenheimer (Deut. Archiv. fur Klin. Med.) says that he has used the tryptophane test of Neubauer and Fischer, and also a new test of his own. The tryptophane test depends on the fact that the gastric juice in cases of gastric cancer contains a peptide-splitting ferment. (Abderhalden) absent from normal gastric juice. The peptide employed in the test is glycytryptophane. The patient is given a Boas' test-meal (18 oz. of tea, 2 oz. of bread) on an empty stomach, and 45 minutes later the stomach is emptied. The extracted fluid is tested for blood and for bile and for tryptophane; if these are absent, 10 c.cm. of the filtered fluid are mixed with 5 c.cm. of the glycytryptophane solution, toluene is added to keep down bacterial action, and the mixture is kept for 24 hours at 37°. A few c.cm. of the mixture are then pipetted off, a few drops of 3 per cent. acetic acid are added, and then small drops of bromine water are very carefully added from a pipette, with frequent shaking. If the gastric extract contained any peptide-splitting ferment, tryptophane is set free in the mixture, and gives a rose-red coloration with the bromine water; if not, the test gives a negative result and only a yellow color is observed. Oppenheimer finds this a fairly good test for cancer of the stomach, but not absolutely trustworthy, for it may fail in cases where operation shows that a cancer of the stomach is present. The author also describes a new test of his own. The Boas breakfast described above is given, and 40 minutes later the stomach is emptied; the gastric fluid is filtered, and to a few c.cm. of it are added drops of 3 per cent. acetic acid solution. A positive result is shown by the appearance of a cloud, which disappears when either much acetic acid or little HCl is added, but remains when the mixture is diluted with as much as 5 volumes of distilled water. This test gave results coincident with those of the tryptophane test; its application is not dependent on the absence of bile, blood, bacteria, and tryptophane from the gastric fluid. Both tests are worth trying in suspected cases of gastric cancer.

General Edema Following Gastroenteritis in Children.—Hume (British Medi-

cal Journal) reports a study of nine cases of general or localized edema in infants following attacks of diarrhea or vomiting. From a postmortem examination of two cases in which there were lesions in the medulla of the adrenals, he suggests that possibly these lesions may be the cause of the edema. The lesions consist in large masses of fibroid tissue, apparently beginning in, and spreading out from, the cells of the blood capillaries. Many of these localized masses are linked by strands of fibrous tissue so that a core of fibrous tissue appears to run through the gland. There seems to be an absence of the cells of the medulla. In support of this belief he cites the improvement which followed in all of his nine cases after the administration of adrenalin chlorid subcutaneously. The Dr. conducted experiments on several cases with a view to determining the relationship of sodium chlorid and phosphate retention to the edema. The author found that enormous quantities of salt are required to affect appreciably either the curve of salt retention or the body weight, and he failed to discover that there was any difference between the salt exchange in cases suffering from this variety of edema and that which takes place in perfectly normal children. The writer suggests the hypothesis that toxins are developed in the gastrointestinal tract which cause degeneration and fibrosis of the suprarenal medulla, and that either as the result of the absence of suprarenal secretion or from the direct action of the toxins upon the capillary masses the latter become more pervious to the outlet of fluid.

New Method of Skin Grafting.—Dr. Barlow in the China Medical Journal describes a method of skin grafting which, though he disclaims any originality for it, is novel as far as Great Britain is concerned. The Dr. aims at securing for the denuded surface a sprinkling of the cells of the stratum germinativum of the skin, which lie next to the corium. These cells have, he says, a most amazing vitality, and can even be kept alive in normal salt solution for many days or grown upon culture media. Moreover, each cell reproduces itself in favorable conditions in from one to eight hours, so that the grafts spread rapidly. In order to get these proliferating cells, the superficial layers must first be got out of the way; and the author's method is extremely simple. The Dr. uses an ordinary stiff fibre brush, such as is used for cleaning vegetables, or a stiff hand brush. The writer scrubs the area adjacent to the denuded surface till it is thoroughly reddened and denuded of the superficial layers of non-proliferating cells. The author then scrubs

the denuded surface, if granulations are present, until it is clean and bleeding; if it is fresh it need not be scrubbed. Without waiting for bleeding to cease, he scrubs from the prepared sound surface down over the denuded area with a strong even stroke, stopping the brush with a slight tamping movement. This carries the fresh cells down over the denuded area and implants them. No especial care is needed subsequently beyond simple dressings, and the results are said to be excellent. Though somewhat painful, the process does not require anæsthesia.

Facial Herpes in Scarlet Fever.—Rolleston (British Journal of Dermatology) found it in twenty-seven out of 413 cases of scarlet fever, or 6.5 per cent., which is about the same percentage incidence as that of facial herpes in influenza, and rather greater than that of the eruption in diphtheria—namely, 4.2 per cent. of 1,370 cases. Scarlet fever, therefore, comes fourth in the list of acute infectious disease for which figures of the frequency of herpes facialis are available, following at a long distance pneumonia, malaria, and cerebrospinal meningitis, in each of which it occurs in about 40 per cent. of all cases. Bacteriological examination of the throat did not reveal the predominance of any other organism than the streptococcus, though the possibility of pneumococcal infection was present to the Dr.'s mind at the time.

A Simplified Insufflator For Use in the Treatment of Diseases of the Throat, Nose and Ear.—Horne (Proceedings Royal Soc. of Medicine) says that the insufflator consists of glass tubes of various lengths, shapes, curves and calibre to meet the requirements of the regions in which they are intended to be used. The proximal end of the tubes is roughened on the inner surface for an inch or more. This roughening permits of the powder being retained in situ and also of a fixed quantity of powder being used. The proximal and roughened end of the tube is dipped into the bottle of powder to be used, and when withdrawn retains the required amount of powder. If required for the larynx or the fauces, or the post-nasal space, the distal end of the tube is inserted and the lips closed or the nostril closed upon it, and the powder is aspirated on to the diseased surface. If the insufflator is not to be used in this manner by the patient but by another person, then piece (2) of the apparatus is attached. This consists of glass with rubber tubing and rubber valve.

The advantages of this form of insufflator over those commonly used are the following: (1) Simplicity; (2) cleanliness, the

instrument readily permitting of sterilization and boiling; (3) cheapness; (4) simplicity of auto-insufflation; (5) precise dosage. It is essential that the glass tubes should be carefully made, suitably curved, and that the part other than the roughened proximal end be absolutely smooth and thoroughly dried before being used.

Infantile Mortality and the Employment of Women.—Wardman-Wilbourn (Med. Press, of London) says that it is of no use to deal with the problem of infant mortality by itself. The mother's welfare must be thought about before the advent of the child, and after its birth it must be suitably tended and cared for, and in association with these improvements there must be an alteration in the present conditions of town life. Most of the causes of infantile mortality are preventable either directly or by social reform. The law should be strengthened for the welfare of the child of the working mother, in some such way as by placing the burden of obtaining proof upon the employer that the required period has elapsed since the confinement of the woman he employs, or in the alternative to prohibit future employment till a medical certificate be produced that it will not be a detriment to their physical well-being and also proof that reasonable provision is made for the care of such child. Owing to the employment of married women in factories and other like places, municipal creches might be established wherever it was thought desirable, and in addition every girl over fourteen years of age might be made to occasionally attend and be instructed in the intricacies of infant management and hygiene much on the same principle as night schools are used for public education. The local authority must remove all insanitary areas, all refuse likely to assist in the multiplication of flies, etc., improve the scavenging and cleansing departments, and especially remove the obnoxious and foul ashpit which still prevails in some large towns; and they should also undertake the building of suitable and proper dwellings. Trained and certified female inspectors and midwives should be instructed to advise the mother to nurse her own child, but if this is not possible the mother should be provided with a suitable food, to be obtained at a price within her reach. The great difficulty in dealing with the food of an infant is to get the mother, especially if she has several children, to understand that the individual child has to be catered for. Great good may be accomplished by organizing mothers' meetings, by lectures on sanitary science, and schools for mothers. The prospective mother's work should be so regu-

lated that she is enabled to rest for a reasonable time before and after child-birth, and some financial provision should be made for the mother during the period of enforced rest, and could be well met by a State-aided endowment of motherhood. Where the mother is unable to attend to the welfare of her offspring in a suitable manner, the State should protect the child, by means of a system of State adoption.

Relation of Hydatid Mole to Chorion-epithelioma and Cystic Degeneration of the Ovaries.—Vineberg (Can. Med. Assoc. Jour.) says that it behooves us to look upon every case of hydatid molar pregnancy with suspicion; that, if there be no evidence of malignancy at the time of the pregnancy, the case ought to be watched carefully for months and even years afterward for any manifestation of the chorion-epithelioma. Most of the cases in the literature have occurred before the fourth month. In the Dr.'s two cases, only three weeks elapsed between the emptying of the uterus and the development of the growth. The first symptom of such a growth is hemorrhage, which may be of most alarming proportions. But on the other hand, the bleeding may be moderate. In either event, no time should be lost in investigating the case by all the means at our command. We have learned that not all cases of chorion-epithelioma show an equal degree of malignancy; but as we have no means, up to the present time, of determining whether the growth will manifest weak or strong malignant character in the future, the only safe course to pursue, it would seem, would be to do a radical operation as soon as the presence of the growth is established.

Salvarsan Milk.—Jesionek (Muench. med. Wochenschr.) says that early in the history of salvarsan it was noted that syphilitic infants, if nursed by syphilitic mothers who had received salvarsan treatment, showed a rapid disappearance of all manifestations of the disease. If directly injected with salvarsan, on the other hand, they often did. Ehrlich endeavored to explain this observation by assuming that, in the latter case, the rapid destruction of the parasites caused so great a production of their endotoxines that the child succumbed. In the former case, however, the antibodies produced, by the treatment, in the mother's blood, passed into her milk and caused a gradual cure of the infant's disease.

Recent observations by the writer speak strongly against this hypothesis. In the first place, chemical analysis of the milk of women recently treated with salvarsan invariably shows the presence of arsenic. It is therefore possible that the good effect of

such milk upon the syphilitic infant may be due to the arsenic rather than to the hypothetical antibodies. In the second place he reports two cases in which syphilitic infants nursed by recently injected syphilitic mothers showed extreme exacerbation of their lesions, justifying the inference that endotoxines from the maternal spirochaeta had passed into the milk and so into the child. This method of treating infantile syphilis is therefore not free from danger. These considerations led the Dr. to try upon a suitable case the effect of feeding the child with milk from a goat that had recently been injected with salvarsan. The effect was striking. Within a week the syphilitic lesions had nearly disappeared and twelve days after the beginning of the treatment no trace of the considerable syphilitic ulcerations was visible.

In view of the facts that the milk of a syphilitic mother injected with salvarsan may be noxious, that the milk of human beings or animals injected with salvarsan contains arsenic in some unknown organic combination, and that such milk has been shown to exert a beneficial effect upon infantile syphilis, the method unquestionably deserves a trial. The technique is so simple as to be at anyone's command. A milk goat is given 0.6 gm. salvarsan intravenously (a cow correspondingly more), and the milk is fed to the syphilitic child. If further experience demonstrates the value of the method, such milk, fresh or concentrated, will doubtless become an article of commerce.

Administration of Anaesthetics.—Darling (Dublin Journal of Medical Science) says that since August, 1909, he has used hyoscine and morphine before operation in over two hundred cases as a preliminary to general anaesthesia; he has given the dose only to adults, the ordinary dose being hyoscine, 1-100 grain; morphine, 1-6 grain; atropine, 1-180 grain, hypodermically, one to three hours before operation. In young women the dose of hyoscine has sometimes been as low as 1-200 grain. The majority of patients have had the previous night ten grains each of trional and sulphonal, ensuring them quiet sleep. In fifteen minutes from receiving the hypodermic injection the patient is completely indifferent to his surroundings, and then the final preparations are made, causing him no mental distress. He walks into the operation room without apprehension, is somewhat dazed, but replies intelligently to questions, usually takes the anaesthetic without terror or struggling, and when he wakes up some hours later remembers nothing that has happened, and is surprised that the operation is over.

Many patients have no recollection of anything since receiving the hypnotic the night before. Less of the anæsthetic is required, the quieting effect on alcoholics is noteworthy, and post-operative vomiting is much less frequent. In no case have they had reason to think the dose has produced ill effects; in cardiac cases they believe it has added an element of safety. The Dr. has not given it where there has been albuminuria. About half the operations were intraperitoneal, many being very severe.

Diazo-Reaction and Pulmonary Tuberculosis.—Weisz (Muench. med. Woch.) says that there is still much difference of opinion regarding the prognostic value of the diazo-reaction in pulmonary tuberculosis, a more or less sceptical attitude being rather prevalent. He, however, is firmly convinced of its value especially in the modified form introduced by him. According to him, the substance which gives the positive diazo-reaction is a urochromogen, that is, a substance representing a lower stage of oxidation of urochrom, the normal yellow coloring matter of the urine. His test for urochromogen consists in diluting the urine three times with water and adding three drops of a one-tenth per cent. solution of potassium permanganate. The urochromogen is oxidized to urochrom and a yellow color results. This test may be substituted for Ehrlich's diazo-reaction and possesses certain advantages over the latter.

The cause of a positive urochromogen reaction, the Dr. considers to be an inflammatory destruction of cellular tissue, and this, in pulmonary tuberculosis, means a progressive infection. Hence, a positive reaction in even a single specimen of urine is an unfavorable sign, and the more frequently or more constantly the reaction occurs the worse the prognosis. In general, too, it may be said that cases with a positive diazo- or urochromogen-reaction are unsuitable for tuberculin therapy and that, when in the course of a series of tuberculin injections a positive urochromogen reaction appears, the dose of tuberculin is too high. The only method of treatment that promises results, in cases of positive diazo- or urochromogen-reaction, is the production of an artificial pneumothorax. Muralt, Brauer and Spengler have reported cases with positive diazo-reaction in which the improvement, following this method of treatment, was accompanied by a disappearance of the reaction.

Relation of Nasal Obstruction to Articulatory Capacity.—Jones (Brit. Jour. Child. Dis.) says that in average school children (469 cases, 106,500 tests) the articulatory capacity for consonants varies

with the degree of nasal obstruction. The dependence of the capacity on this factor is not very close, but is much more decided with boys than with girls. The incidence of nasal obstruction being equal in the two sexes, it would seem that a given degree of it produces, through partial deafness or in some other way, a more harmful effect on the articulatory capacity of boys than on that of girls. This is in harmony with the author's hypothesis, that hearing is more essential in the acquirement of speech with boys than with girls, the latter making use of a second channel of education, lip-reading, which is shut to boys. In children with gross articulatory defect or dyslalia (231 cases, 52,000 tests) no correlation whatever was found between the extent of this defect and the degree of nasal obstruction present. Investigation of a larger series might reveal a slight correlation, but nasal obstruction is evidently not an important cause of dyslalia in general, and any action it may have is readily obscured by that of more important factors.

The Roentgen-rays and Sterility.—Schmidt (Berl. klin. Woch.) says that experiments on animals have shown that after application of the x-rays over the abdomen there is atrophy of the ovaries. Examination after the animals were killed showed the ovaries to be smaller, and many of the Graafian follicles had disappeared. The primordial follicles were degenerated. In women near the menopause a lasting sterility is obtained by the use of the rays; but in younger women, although menstruation is often suppressed for a time or made irregular, it eventually reappears. In some of these cases the technic is at fault. At forty years of age the artificial menopause is harder to obtain than at fifty years or thereabouts. In young women the ovaries show a great power of regeneration. Frankel in thirty cases of prolonged menstruation—six to eight days in length—reduced the length to about three days. Of twelve patients of his, between the ages of fifteen and thirty years, treated for acute eczema or psoriasis of hands, face, or feet, ten had derangement of menstruation following treatment. It appears that ovaries in young women resist the rays, while at the period near the menopause they are more easily affected by them. The rays have little effect on pregnancy, there being small likelihood of causing abortion by their use. In the early weeks it is possible that untoward effects on the embryo may be produced. In the x-rayed ovaries of women both Graafian and primordial follicles are found degenerated. In males, the rays produce an absence of spermatozoa in the semen. A

physician on whom the rays were used, found that at first there were no spermatozoa in the semen, later nonmotile spermatozoa appeared, and after stopping the x-ray treatment motile spermatozoa reappeared and his wife became pregnant. Of eighteen men employed in factories where x-ray apparatus was made and tested there was complete azoospermia or oligospermia. These were strong, healthy men from twenty to forty years of age. None of them had venereal disease or any traumatism of the genital organs. Half of them were married, but none had had any children since they began the x-ray work, the testicles were not atrophied and the sexual power was normal.

The Treatment of Cardiac Arrhythmia.

—Hay (Liverpool Medico-Chirurgical Journal) says that it is not possible at the onset of an attack to be certain of the outcome of this arrhythmia. Rest, slight diminution of the blood-pressure, relief of the mental anxiety, and the removal of any detrimental accessory conditions such as a distended stomach or loaded intestine, are all to be obtained. Drug treatment is to a certain extent tentative. Morphine in small doses, and repeated, is very valuable where the dyspnea is distressing, more particularly in patients where there is little, if any, edema. Chloral slightly lowers blood-pressure and frequently enables the patient to sleep. There is a very widespread and unwarranted fear of this drug. It can be given to those patients for whom morphine has been recommended.

When this disordered rhythm attacks a patient with mitral stenosis we have greater hope of effecting an improvement and slowing the heart by means of digitalis than in cardio-sclerotic patients. Digitalis has a definite action on the conducting powder of the A. B. bundle, and it is this which makes it so extremely useful in these case of mitral disease. In mitral disease there is always a tendency to some impairment of the conducting power of the bundle of His, and this makes these hearts susceptible to the action of the digitalis group.

In cases of mitral stenosis suddenly seized by auricular fibrillation, digitalis should be pushed to the point of producing physiological effects, the object being to depress the conducting power of the bundle. If we can succeed in doing this, the ventricle receives a very diminished number of stimuli from the auricle. The majority are unable to pass along the bundle, and this explains the considerable slowing of the heart in these patients under the action of digitalis. As a result of this slowing, the diastolic pauses of the ventricle are pro-

longed, the heart muscle has an opportunity to recover itself, and the circulation becomes more efficient.

The mistake which is most usually made in the treatment of such patients is to be afraid of the drug. Fifteen minims of an active tincture strengthened by 1-240 of a grain of digitalin, given four-hourly for the first two days is not excessive. The real test of saturation is to be found in the appearance of vomiting and great nausea, or marked slowing of the pulse with a coupled rhythm; such indications suggest the desirability of diminution in the dose, or temporary cessation. It is a good plan to note the total quantity of digitalis required to produce definite slowing of the heart and relief of symptoms, for future reference in the event of a second breakdown. It is perhaps hardly necessary to refer to the necessity of thoroughly purging the patient as a preliminary to treatment by digitalis.

A Rapid X-Ray Method of Scalp Epilation.—Tompkinson (Glasgow Medical Journal), describes the method of Kienbock. Sabouraud's dosage is followed, measured by the pastille of Sabouraud and Noire, but the areas of irradiation are considerably increased, thus very materially reducing the total time formerly occupied in epilating the whole scalp. Five points are selected on the scalp—the hair of which has been clipped short—each one of which is 5 inches from adjacent ones. Three of these are in the middle line. One about 1½ to 2 inches from the hairy margin of the forehead, a second one 5 inches posteriorly to this, and a third one 5 inches posteriorly to the second point, viz., pretty near the posterior border of the scalp. Two lateral points are marked a little above and in front of the ears, each one of which should measure 5 inches from each of the points in the middle line. A circular metal frame attached to the protective shield surrounding the X-rays tube—carrying three soft wooden pegs, the points of which are placed about each of the points in turn as center—maintains Sabouraud's critical distance. The irradiations are made at right angles to each other. It is necessary, of course, when irradiating the four peripheral areas, to protect the adjacent glabrous skin with lead foil or other impermeable material.

The case the author demonstrated was treated by him in the Western Infirmary a month previous, and the depilation of the scalp was virtually complete. In about six weeks time—ten weeks from the date of irradiation—a new growth of healthy hair should appear. This method saves a great deal of time, an important considera-

tion in those centers where the x-ray treatment of children suffering from tinea tonsurans is adopted. As a means of rapidly rendering a child affected with scalp ringworm fit to return to school, radiotherapy is the only treatment, as pointed out by the writer some years ago, which can be recommended.

Ointments, with Special Reference to the Substances used as Bases.—Wild

(British Medical Journal) says that a number of experiments have been made to determine the relative protective and penetrative powers of the various bases, and also the extent to which certain active drugs were absorbed by the skin when applied to it in the various combinations. The experiments were made by rubbing a carefully weighed quantity (usually 10 grains) of the ointment or base into a definite area of skin (usually 20 square inches) for a fixed time. The ointment was then scraped off the rubbing finger and the surface of the skin by a dulled Gillette safety razor blade fixed in a convenient handle, and again weighed. To avoid the necessity of wiping the instrument the scraper is weighed with the ointment both before and after rubbing. With a little practice consistent results may be obtained. The loss of weight represents the amount of ointment absorbed, together with the amount lost in manipulation; as the latter is fairly constant in dealing with preparations of a similar consistency the results afforded a relative indication of the respective amounts absorbed. There may, of course, be a possible slight gain from secretion and epidermis removed from the skin by scraping, but if the skin be dried before the rubbing, experiment has shown that this factor may be neglected, as it is the same for each application and does not affect the relative results.

These experiments are still in progress, but sufficient results have been obtained to confirm the generally accepted views as to the relative penetrative powers of the usual bases.

Soft paraffin and paraffin ointment appear to be hardly absorbed at all, but remain on the skin as a protective layer for a considerable period. Lard and olive oil are absorbed to a considerable extent, about 15 per cent, after two minutes' rubbing. Hydrous wool-fat, 20 per cent, provided the proper amount of water is present; old samples partially dried are less absorbed. Owing to its powerful adhesive properties no reliable result was obtained from anhydrous wool-fat.

The greatest loss of weight occurred from a mixture of equal parts of glycerin

of starch and wool fat, which is a useful base when a comparatively non-greasy emollient is required.

Chloretone in Tetanus.—Croley (Indian Medical Gazette) makes the following statements:

1. The case was a very acute one, the spasms and trismus and opisthotonos being very marked.

2. Except for the chloral and bromide the first day and on the evenings of the seventh and thirteenth days no other drug was given but chloretone.

3. No antitetanic serum was injected.

4. The fact most worthy of attention was the relief of trismus, which enabled the patient to take ample nourishment and so maintain his strength.

5. The convulsion were a very marked feature of this case. In the note by Dr. Sheaf in the British Medical Journal article, he says that tetanus not only kills by the direct action of the toxin, but by the exhaustion produced by the convulsions' so the drug was given a most severe test.

Croley is convinced that the man owes his life to chloretone, and he strongly recommends the drug be given a trial.

Mixture of Salicylate of Soda With Iron.—Drinkwater (Liverpool Medico-Chirurgical Journal) says: For the last fifteen years I have been in the habit of using a mixture containing salicylate of soda and liquor ferri perchloride, which he has found very useful in rheumatic conditions associated with anemia, and especially in a kind of sore throat which appears to be of rheumatic origin.

In this affection the pharynx is slightly redder than normal, and there is pain, especially on swallowing.

The mixture is made as follows.

For an 8-ounce bottle, take 1 drachm of sodium salicylate dissolved in about 2 ounces of water. Add liquor ferri perchloride, half a drachms, plus about an ounce of water. This produces a dark purple mixture, with a precipitate, thick and curdy in proportion to the concentration of the mixture. Then add 1 drach of potassium bicarbonate dissolved in 1 ounce of water, and fill up to 8 ounces with water. The precipitate dissolves on the addition of the potassium solution, and the result is a clear, claret-colored mixture of an agreeable taste. The color is lighter still if a little more potash be added.

Theoretically, 213 grain of sodium salicylate is equivalent to the iron in one fluid-ounce of the liquor ferri perchloridi but practically only about one-quarter of this amount of iron can be used. If more liquor

ferri is used than in the above prescription, there will be an active effervescence on the addition of the bicarbonate. With the above quantities there is no effervescence. (Of course, it would not do to mix the iron and the bicarbonate before adding the salicylate.)

Salvarsan for Infants and Young Children.—Bokay (Wien. Klin. Woch.) discusses the action of salvarsan in 26 cases of syphilis in infants and young children. Thirteen of the patients treated were under a year old; 23 out of the whole 26 suffered from congenital syphilis, and 10 out of the 13 babies. The youngest baby was five weeks old. All were fairly well developed and well nourished breast-fed infants. At first the initial dose was 0.005 gram per kilogram of weight, but later this was increased to 0.008 gram and to 0.01 gram per kilogram. Wechselmann's neutral suspension was found a more satisfactory preparation than the neutral or slightly alkaline solution in methyl alcohol recommended by Ehrlich, because it caused a smaller and more quickly disappearing infiltrate, and as a rule no subsequeut pain. One child was treated indirectly through the mother, but with only partial success; later salvarsan was given directly to the child and the symptoms disappeared. Three injections were given in one case, two injections in each of nine others. Second injections were given when either the symptoms were slow to improve, or Wassermann's reaction remained positive. All but one of the injections were intra muscular, none were intravenous. The injection was followed by high fever in three cases only, but in all cases fever had disappeared by the third day. The increase in weight of the infants while under observation was fairly satisfactory, especially since the weight tends to remain below the average in infants under mercuric treatment. During three months one baby put on 3,100 grams (6.8 lbs.), another 2,200 grams (4.8 lbs.), and a third 1,500 grams (3.3 lbs.). The children did not suffer from digestive disturbances as a result of salvarsan. Fourteen of the cases were under observation for more than four months, six from two to four months, and the remaining six for rather less than two months. Altogether three relapses were observed, one of them three months after a second injection, another four months after a first injection, and another ten weeks after injection in the child who had received a preliminary indirect treatment; in two of the cases relapses occurred in spite of the fact that Wassermann's reaction had become negative. The cutaneous manifestations of syphilis and those of the mucous membranes improved with wonderful rapid-

ity under the treatment. In two cases of osteochondritis cubitorum improvement was very rapid, and in one of them after two weeks, in the other after three, the symptoms had altogether disappeared. Salvarsan was given in four cases of keratitis parenchymatosa in congenital syphilis, and the author is of opinion that it is a valuable agent in such cases. There was considerable improvement in a case still under observation of syphilitic cerebral tumor, with hydrocephalus and already developing optic atrophy; here two injections were given and lumbar puncture performed between the first and second injection. In a case of moderate hydrocephalus internus without functional symptoms, it appeared to the author, during an observation which extended over several months, that the use of salvarsan had brought the process to a standstill, but in another of hydrocephalus with severe spastic symptoms no improvement occurred. It appeared from the cases that Wassermann's reaction might be expected to change to negative at the end of the sixth to eighth week, having become gradually less marked before that time.

Sensibility of Internal Genital Organs.

—Brose (Ventralblate für Gynekologie) says that in the course of an operation for prolapsus under local anesthesia, he had the opportunity to test the sensibility of normal pelvic organs. Separation of the bladder from the cervix was painless, although not infiltrated with the anesthetic. The tissue immediately beneath the uterovesical fold of peritoneum was extremely sensitive and necessitated application of the anesthetic before it could be incised. Nausea was produced by the introduction of the fingers into the peritoneal cavity. When traction was made upon the uterus, the patient complained of considerable pain; following displacement into the vagina the pain ceased. Pinching, squeezing and the application of heat and cold to the tubes, ovaries and uterus failed to produce discomfort. Division of the tubes, suture of the cornua, and ligation of the mesosalpinx were painless. These observations are in accord with those of Lenander, who claims that all organs which are supplied by the sympathetic or vagus after giving off the recurrent nerve are not sensitive to pain, pressure, heat or cold; pain resulting from disease of these organs is due to stimulation of the spinal nerves through participation of the parietal peritoneum in the diseased process. Muller and Goldscheider deny this assertion, and claim that while the visceral nerves are not sensitive under normal conditions, disease renders them so. Brose thinks that the diagnosis of ovarian

neuralgia should never be made; the symptom complex thus described in text-books has nothing to do with the ovaries but is merely a manifestation of hysteria.

Hypertrichosis in Pregnancy.—Pellinghaus (*Zentralbl. f. Gynäkol.*) mentions a case of transitory hypertrichosis, caused apparently by pregnancy. The Dr. points out that skin changes, such as deposition of pigment and dermatographism have been commonly referred to in connection with the pregnant state, but that almost no notice has been taken of changes and the hair. Halban, in 1906, directed attention to an increased growth of the body hair, and especially of the lanugo, setting it soon after the beginning of pregnancy and affecting chiefly the face and the abdominal wall. It was not, as a rule, so marked as to be noticed by the patient herself, and even the medical attendant, if he did not make a close examination, would be unaware of it. Cases, however, have occurred in which pregnancy caused such marked hypertrichosis of the face as to be visible at twenty paces. A single tonic nerve treatment causes the excessive growth of hair to disappear.

The Action of Digitalis in Irregular Heart.—Edens (*British Medical Journal*) speaks of the action of digitalis. After noting that the best results of the drug are to be found in mitral insufficiency giving rise to feebleness of the heart's action and quickened pulse, the Dr. considers its action in other forms of irregular heart. In one case of atrio-ventricular extra-systole he administered the drug intravenously, and instead of producing an improvement in the condition an increase of extra-systoles occurred with collapse, but this was not the case when the drug was given by the mouth. He also refers to the occurrence of pulsus bigeminus during the use of digitalis and to what has been called pseudoalterans. In this latter condition the frequency of the heart beat is so great that the pulse succeeding the second systole in the pulsus bigeminus is no further distant than that between the first and second systole in the bigeminus. As a result of digitalis, therefore, a double rhythm of the whole heart, auricle and ventricle, appears to occur, but the author considers this is only due to a bigeminus of the ventricle. Digitalis acts in many cases adversely where conductivity is lowered, although in some cases it seems to produce an improvement in conduction power, but on the whole Wendkebach's original rule still holds good—that disturbances of conduction are not suitable cases for digitalis. In cases of so-called arrhythmia perpetua, the author notes that digitalis has a favorable influence.

Etiology of Cholelithiasis, Special Reference to Age-Incidence.—Ryerson (*Canadian Medical Association Journal*) says in 145 cases of cholecystitis gall stones occurred in 55.8 to 58 per cent. of patients between the ages of 15 and 45. Adding to the above number of cases in which symptoms started in that period, the percentage is increased to 65. He found that typhoid, which is recognized as one of the exciting causes of gall stone formation, occurs most often in the early part of that period, and that the conditions of pregnancy and fibroids of the uterus, which are known to be commonly associated with gall stones, are most common at that time of life. Gall stones are not found at autopsy in any larger proportion of cases after 45 than before than age. He says that if gall stones are formed as the result of a chronic infection of the gall bladder occurring most commonly between the ages of 15 and 45, why should we not try to overcome this infection? We know that if a gall bladder is emptied of stones and drained for a short period of time, that stones very rarely reform, as the cause of their formation, chronic infection, has disappeared. If this is the case, why should we not take the same steps when we know that a chronic cholecystitis is present, which will ultimately result in the formation of gall stones. Will the patient ever get rid of the infection if we do not drain his gall bladder?

The anatomic arrangement of the cystic duct, on account of the infolding of the mucous membrane in the form of valves in the interior, is of such a character that it is questionable whether it can provide sufficiently free drainage to the gall bladder to rid it of its infection. The fact that we know that there exist "typhoid carriers" in whom the typhoid bacilli have been found in the gall-bladder twenty and even thirty years after infection, also shows us that this infection of the gall bladder tend to persist unless steps are taken to relieve it. Not infrequently, in operating on the abdomen for symptoms suggestive of gall bladder trouble, if the surgeon cannot palpate stones in the interior of the gall-bladder or in the ducts, he closes the abdomen without opening the gall bladder. The symptoms of chronic cholecystitis are so closely identical with those of cholelithiasis that the gall bladder, although showing no stones or peritoneal changes, such as adhesions, should invariably be opened and drained in such cases.

The Dr. says that the simple operation for uncomplicated gall stones, with its mortality of 5 per cent., is an entirely justifiable procedure as a means of preventing the years and years of symptoms which gall

stones are known to cause. The Dr. says that the day is surely not far distant when we shall advise immediate drainage of the gall bladder, not only for the gall stones, but also for chronic cholecystitis, such as that complicating typhoid or other intestinal infection, and by so doing prevent the formation of gall stones, with their years of chronic indigestion, repeated attacks of biliary colic and irritation resulting in malignant disease.

Miscellaneous.

Intestinal Atony.

A considerable proportion of all cases of intestinal indigestion can be traced to muscular insufficiency and deficient circulation in the submucous coats. Treatment directed toward increase of muscular activity is all important, and in conjunction with massage and other mechanical forms of tonic stimulation, Gray's Glycerine Tonic Comp. has given uniform satisfaction.

The usefulness of good hypophosphites in pulmonary and strumous affections is generally agreed upon by the profession.

We commend to the notice of our readers the advertisement on page xiv of this number. "Robinson's Hypophosphites" is an elegant and uniformly active preparation; the presence of quinine, strychnine, iron, etc., adding highly to the tonic value.

New Officers of the Mississippi Valley Medical Association.

At the annual meeting of the Mississippi Valley Medical Association, held in Nashville, Tenn., on October 17th, 18th, and 19th, the following officers were elected to serve for the ensuing year: President, Dr. Louis Frank, of Louisville; first vice-president, Dr. Albert E. Sterne, of Indianapolis; second vice-president, Dr. F. W. Werner, of Joliet, Ill.; secretary, Dr. Henry Enos Tuley, of Louisville; treasurer, Dr. Samuel C. Stanton, of Chicago. The association will meet next year in Chicago.

Surgical Treatment of Adenoid Vegetations and Hypertrophy of the Tonsils.

Aristide Malherbe and Robert Jouet think that medical treatment of adenoids and hypertrophied tonsils is illusory; as soon as the diagnosis of adenoids is made they should be removed, unless there is present an attack of adenoiditis or of an infectious disease. Anesthesia should be employed always if we desire to make a complete

operation. The best is chloride of ethyl; this produces rapid narcosis and a sound and quiet sleep. There are no disagreeable after effects, no nausea or vomiting and kidney troubles. The anesthetic is better controlled when used with a simple compress than with a cone. The child should be placed in the Rose position, on his back, with his head extended below the level of the table. This position avoids the passage of blood and of debris from the vegetations into the windpipe. A special apparatus constructed for the author consists of a ring of steel screwed to the table, with two loops so placed that the head may be controlled by a napkin folded and passed through them, there being a concave crosspiece behind the head. A sharply curved curette is used for the removal of the adenoids. After the first inspiration of the anesthetic there is no further resistance; anesthesia is complete after four or five inspirations and resolution is rapid. The removal of the tonsils may be done with a tonsilotome, in cases of projecting tonsils, and after loosening them from the pillars of the fauces when they are flat and adherent. The two operations should not occupy more than three minutes; the child remains in bed for 24 hours and in the house for a week.—*Le Bulletin Medical*.

Contribution to the Study of the Ovarian Function by Unilateral Castration.

Francesco Valtorta has attempted to ascertain whether after unilateral castration the remaining ovary will take up successfully the entire ovarian function. To this end he castrated rabbits unilaterally and killed them after various intervals, examining the ovaries histologically. He found that there was a uniform increase in size of the remaining ovary, which was due to an increase in the number of Graafian follicles, with slight increase in the stroma and no evidences of changes in the vessels indicating sclerosis. Hence the author finds that the ovarian function is supplied by increase in size and function of the remaining ovary.—*Annali di Ostetricia et Ginecologia*.

Treatment of Tetanus.

In the *Berliner Klinische Wochenschrift* appears a report on a large number of cases of tetanus treated by Dr. Bacelli's method of subcutaneous injection of carbolic acid. Of ninety-four cases of severe tetanus collected from medical literature (mostly Italian) only two proved fatal. Of thirty-eight very severe cases, sixteen died. From these latter Dr. Bacelli excludes eleven cases, because the doses administered were wholly insufficient. This reduces the mortality of

the latter series to 18.5 per cent. Considering that the mortality of severe cases of tetanus is 100 per cent., in ordinary circumstances, these figures would appear to be highly satisfactory. Dr. Bacelli uses a 2 to 3 per cent. watery solution of carbolic acid, which is injected subcutaneously. He commences with very small doses, but as soon as the proper tolerance of the patient has been established by examination of the urine, the dose should be rapidly increased until the patient takes 1 to 1½ gramme in the course of twenty-four hours. According to the author, tetanus patients tolerate carbolic acid in surprisingly large doses, and he is led to formulate the axiom that the toleration is directly proportionate to the severity of the case.—*Edinburgh Medical Journal*.

Sigmoiditis and Infection of the Internal Genital Organs in the Woman.

Jean Poulain says that the position of the sigmoid free in the small pelvis held in position by its mesentery and coming in contact with the female genital organs allows of the propagation of inflammation from one of these organs to the other. This infection is propagated not by the blood-vessels or lymphatics, but by means of the adhesions produced in the peritoneum. These may be many and close enough to cause a paraintestinal tumor as a point of departure for obstruction. The infections of the sigmoid are primarily caused by constipation and are communicated to the genital organs. If treated early they may be cured, while if left alone they cause irreparable lesions of the genital organs. The germs that cause inflammation to pass from the sigmoid to the adnexa are the colon bacillus primarily, the streptococcus, typhoid bacillus, and ameba of dysentery. The one that most frequently passes from the adnexa is the gonococcus. Besides these are streptococci, staphylococci, and tubercle bacilli. We get suppurative and plastic inflammations, the latter producing adhesions that bind down all of the organs contained in the pelvis. In these cases we should try a long course of irrigations of the intestine with hot water and salt, before we undertake operation.—*Journal des Sciences Médicales de Lille*.

Headache in Nephritis.

For years there has been a growing belief in the all importance of diagnosis and the very little importance that medicines play in treatment of symptoms and suffering. This is perhaps due to a variety of causes. One is the nihilistic attitude assumed by a considerable number of the leading lights

in regard to therapy. At times, even the family physician feels his hopelessness and helplessness when all measures fail and death comes. This let-alone policy has perhaps also been emphasized by surgeons and other specialists who occasionally seem to pride themselves on their ignorance of general remedial measures. A close observer of the trend of matters will notice two things which have come to light in very recent times—namely, the newest text-books on the Practice of Medicine are devoting more space to "treatment" than formerly, and that physicians are harking back to the old well tried preparations, such as Basham's mixture, Hoffman's anodyne, Dover's powders, etc.

Because a patient has a severe and at times an almost unbearable headache while suffering from chronic nephritis is no reason why some measures should not be taken for relief, though the kidney disease may be incurable. Our knowledge of the exact cause of the headache is not clear; it may be due to a constriction of the arteries in the brain or to circulating poisons in the blood. For the former, nitroglycerine, aconite, belladonna, chloral hydrate or iodide of potash may be used with advantage, with the hope of lowering the general blood pressure and relaxing the contracted arteries, as dilators. For a quick symptomatic treatment, small doses of acetphenetidin combined with monobromate of camphor or guarded by aromatic spirits of ammonia will prove useful. Occasionally the headache may be so severe that codeine or morphine hypodermically is indicated. A useful preparation which has been possibly overlooked is the N. F. elixir of guarana.

For the more urgent requirements of elimination there are blood-letting, which acts in the double capacity of lowering the blood tension and letting out some of the circulating poison, especially when normal saline solution is used at the same time. In all cases free saline purgations must be early instituted, to which may be added when necessary diuresis and diaphoresis.—*Editorial Virginia Medical Monthly*.

Gastric Syphilis.

Mathieu says that cases of gastric syphilis are not rare when they are carefully looked for, and in every obscure case of gastric trouble we should think of the possibility of its being of syphilitic origin, and should search for a previous syphilitic history. The lesions may be those of severe chronic gastritis, tumors simulating cancer of the stomach, pyloric stenosis, ulcerations and deformations of the stomach of the nature of biloculation. The author gives the histories

of cases of all of these different kinds of lesions produced by syphilis and cured by antisyphilitic treatment. These lesions are characterized by gummatous infiltration with a tendency to sclerotic organization and formation of fibrous tissue at the edges of the gummata. When the gummata have disappeared the fibrous tissue remains as a permanent lesion, rebellious to all treatment. While the gummatous formation remains antisyphilitic treatment causes amelioration of the symptoms, which is remarkable in the rapidity with which it takes place. In forms simulating cancer it is to be noted that cachexia is absent in syphilitic lesions. The reaction of Wassermann is a valuable diagnostic aid in these cases. The author uses the soluble salts of mercury by intramuscular injection. In cases of cancer and ulcer that are not syphilitic iodide of potassium increases the symptoms, while in syphilitic cases its effect is excellent.—*Gazette des Hôpitaux*.

A Research in Chlorosis.

Morawitz (Munch. Med. Wochenschrift) draws the following conclusions from his studies of chlorosis:

1. There are frank cases of chlorosis with a normal or nearly normal blood finding. These cases are not rare. They are as favorably influenced by iron as are the cases with a distinct anemia.

2. The anemia is not the cardinal symptoms of chlorosis, but is only one of a group of symptoms.

3. Disturbances of menstruation, venous hum and the water retention of chlorosis are not always dependent upon the anemia, but are in a majority of cases subjective symptoms.

4. It is not proven that iron acts in chlorosis as a stimulant of the blood producing organs or especially as a stimulant for the increase of hemoglobin. The uselessness of iron in nearly all the anemias not chlorotic in type speaks against its having such a stimulating effect.

"Patches of alopecia areata on the scalp are also extremely profitably treated with hyperæmia. In most cases the patch of alopecia areata is very anæmic, because of deficient blood supply. The blood supply needs to be encouraged, and that has been done formerly by putting on cantharides and other strong stimulating lotions. But the suction cups do all that, and far better. Take a cup of the size of the bald patch, and leave it on for a few seconds. Almost immediately on applying it, the area becomes cyanosed, and there is increased circulation in it. The patch which was blanched and white, pale and shiny, almost immediately becomes more normal in ap-

pearance; and after a few days these bald, pale patches are no longer pale, but there is now plenty of blood in them. They are always passively congested, and unless there is previous destruction of the hair papillæ, which is incurable, the hair will begin to grow. Bald patches are sometimes found also on the eyebrows, and this method can be applied by putting on hyperæmia cups; and after a time the hair will be seen to be growing."—*The Practitioner*, London.

"Consider for a moment the aims of dietetic treatment in diabetes. By its means we are able, in many cases, to decrease materially, or even to arrest completely the output of glucose, and this because we are able to diminish or to remove the excess of sugar in the blood. The loss of the potential energy of the unburnt sugar can be readily compensated by dietetic means, but the hyperglycæmia is the cause of many of the troubles to which diabetic patients are liable. Again, by resting the damaged mechanism as far as may be, we not only arrest the aggravation of the error, but even bring about, in no small proportion of cases, a remarkable recovery of tolerance for carbohydrates—a matter of no small importance. Some diabetics are able, after a course of rigid dieting, to deal with much larger quantities of starch than would have sufficed to excite glycosuria before such treatment. Whereas, when starch food is allowed without restriction, a progressive aggravation of the metabolic error results, often very rapidly."—*The British Medical Journal*.

"The value of the antitoxin treatment of diphtheria has been abundantly proved, but may have certain ill results, which are not due to the antitoxin but to the horse serum containing it, and also may be produced by the serum used for other diseases—tetanus, streptococcal infection, etc. The symptoms are fever and a rash, usually urticaria or a variety of erythema multiforme. They occur in about 33 per cent. of the cases treated. Other and much more serious symptoms occur in 3 or 4 per cent. of the cases—acute pains in joints, tendons, and fasciæ, with fever. Occasionally the joints are swollen (arthritis). These symptoms rarely appear before the expiration of a week from the injection of the serum. This incubation period may be prolonged to as long as three weeks. This febrile attack, with a rash and in some cases also with arthritis, constitutes the 'normal reaction' to horse serum. The serum of other animals causes similar effects. In the vast majority of cases of diphtheria, the sickness, though it may be unpleasant, is not dangerous."—*British Medical Journal*.

"So far as our present knowledge is concerned, with the small quantities that we have at our command, radium can only be relied upon, and that to a limited extent, in cases of malignant disease in which growth is slow and the degree of malignancy relatively slight. On the other hand, it is of the greatest value in what may be called the pre-malignant stage—that is to say, in removing growths which not infrequently become malignant as age advances, without an operation and, what is very important, not merely for cosmetic but for clinical reasons, without leaving much of a scar; and there is good reason to hope that if the small quantities we possess now are capable of dealing with growths of relatively mild malignancy, larger amounts, when we can get them, will prove equally successful in circumstances of greater difficulty."—*The Lancet*, London.

"The importance of oral sepsis as a cause of disease is a matter which is receiving an increasing amount of attention every day, and has had of late some brilliant exponents, those especially worthy of note in this country being William Hunter, who has traced many cases of severe anæmia to this cause, and Kenneth Goadby, whose most recent work on the subject deals with arthritis produced by an organism of the mouth."—*British Medical Journal*.

"Certain tests have been proposed to distinguish physiological from pathological albuminuria. In a number of cases it has been found that the albumin disappears from the urine after one or two doses of calcium lactate. In a discussion which took place at the Life Assurance Medical Officers' Association in 1906, Dr. R. Hingston Fox recorded his experience in this matter, and recited several cases which fully satisfied him as to the effect of the calcium salt in controlling the transudation of albumin. The presence of casts in the urine may yield evidence which is of value in the differential diagnosis. If numerous granular and epithelial casts are found, then nephritis is undoubtedly present, but if only hyaline casts are seen, then the albumin may be of a functional character; the absence of casts, however, does not exclude disease of the kidney, as these bodies are not always present in such conditions."—*The Lancet*, London.

Extrauterine Pregnancy.

Schauta (Wien. med. Woch.) deals with the subject of extrauterine pregnancy. He distinguishes between extrauterine abortion and extrauterine rupture. By extrauterine abortion he means the discharge of the

ovum into the cavity of the tube from the muscular tissue in which it is embedded; by extrauterine rupture, rupture into the general peritoneal cavity. Extrauterine abortion is usually accompanied by the passage of the blood through the fimbriated end of the tube into Douglas' pouch, with the formation finally of a retrouterine hæmatocele. The symptoms may be insignificant, and the author lays great stress upon the importance of obtaining a history of a monthly period having been missed. With tubal rupture the symptoms are much more acute, and the unsatisfactory diagnosis of "peritonitis," with the consequent expectant treatment, could often be avoided if an inquiry as to the menstrual history were made. The treatment is always operative. In tubal abortion there is, of course, the possibility of a successful termination without operation, but since the patient is never free from danger, Schauta refuses to treat any such case on conservative lines, except in an institution. If the patient is in a private house and the need for operation occurs suddenly, the removal to a nursing home is, in any case, a severe shock, and often on arrival it is too late to operate. In tubal rupture operation should be the invariable rule, however desperate the condition of the patient. A case is described in which the patient at the time of the operation was blanched, pulseless, and looked to be dying; the abdomen was distended and no examination could be made. The diagnosis of tubal rupture was confirmed by the history of one missed period. Operation was performed and the patient left the institution recovered after eight days. The author believes that many women die from tubal rupture who could be saved by operation.—*Brit. Med. Jour.*

The Avoidance of Pneumonia Sequelæ.

The best means of avoiding pneumonia sequelæ lies in the administration of truly strengthening products, of which Cord. Ext. Ol. Morrhuæ Comp. (Hagee) is a splendid example. Its employment insures a richer blood stream, charging the tissues with reconstructive elements that are lacking as a result of the serious inroads made by the primary disease. With this enhancement of bodily vigor, the index of resistance becomes higher and sequelæ are successfully combated.

Cord. Ext. Ol. Morrhuæ Comp. (Hagee) may be profitably employed as a routine reconstructive after pneumonia, there being no more definite indications for its use than in the convalescence following acute lung and bronchial disorders.

Operative Treatment of Gastric Crises.

Foerster maintains that in severe cases of gastric crises in which, as a result of inanition and morphinism, life is endangered, and in which other therapeutic measures have failed, an attempt to secure relief should be made by resection of the posterior dorsal nerve roots from the seventh to the tenth inclusive. The author thinks that the gastric crises arise from a painful irritation of the sensory sympathetic gastrointestinal nerve fibres which reach the cord in the dorsal nerve roots. Altogether 28 cases have been operated on. Of these, three died as a direct result of the operation, and in two cases no benefit was obtained. In the remaining 23 there was a prompt cessation of the crises, the weight increased, and the general health improved. In a few cases the crises returned later on. Sometimes paralysis of the bladder, with subsequent cystitis, and temporary intestinal atony with meteorism follow the operation.—*Therapie d. Gegenur.*

Cause of Pyorrhœa Alveolaris.

At the meeting of the British Medical Association, Mr. A. Hopewell Smith showed a series of photomicrographs illustrating the patho-histology of the disease, an aspect on which little work has hitherto been done. The photographs were of sections taken through the dental and alveolar tissues of affected human jaws, and were extremely instructive. Perhaps the most notable feature was the great enlargement of the apical space and deeper portions of the bony tooth socket at a stage when the atrophy of the free edge of the alveolar process showed but little progress. It is this observation that leads the investigator to throw the weight of his evidence into the scale of opinion that pyorrhœa alveolaris is not a progressive gingivitis, but depends on a primary atrophy of bone.—*The British Medical Journal.*

Men of decision all meet with derision; Cromwell's is still a name of opprobrium. Disraeli was despised by millions. Lincoln was reviled by his antagonists. Weaklings neither wear nor weave the crown of thorns. Can't you see how absolutely impossible it is to be clear-visioned and upright and uncompromising and true to the highest dictates of duty, citizenship and conscience, without arousing a hubbub from every man who detects *his* fall in *your* rise?—*Richmond Journal of Practice.*

Unexpected Dangers of Whooping-Cough.

Rousseau-Saint-Philippe calls the attention of parents and physicians to the abor-

tive cases of whooping-cough which make of the little patients unwilling bearers of the disease. There are two common errors with reference to the disease; that it is a simple disease and that the diagnosis is to be made only by the whoop. There are many cases in which we get a paroxysmal, spasmodic cough without the typical whoop, and yet in which the micro-organism discovered by Bordet and Gengou is to be found. As soon as the diagnosis is made isolation should be careful, both to prevent the spread of the disease and to prevent the little sufferer from acquiring further infections. It is a fact that a simultaneous epidemic of measles causes the mortality of whooping-cough to be greater. These children should be carefully excluded from school and from clinics for children. There should be a special clinic for them. The complications of this disease are many and serious; acute, and subacute bronchopneumonia, bronchitis, pulmonary congestion, bronchiectasis, emphysema, and enlarged bronchial glands. Tuberculosis may be the result of the cachectic state into which the child falls. Whooping-cough is really one of the most fatal of diseases among children.—*Journal de Medicine de Bordeaux.*

Abdominal Angina.

An interesting article on abdominal angina is contributed by Heisler. The condition is attributed in all cases to vascular changes, which are stated to manifest themselves in four clinical types. The first group consists of cases in which there is actual arterial thrombosis; in the second, the predominant symptom is hæmorrhage from the stomach and intestine, which may prove fatal; the third group consists of those cases in which ulcers of the stomach develop as a result of arterio-sclerosis; while the fourth group embraces cases of true abdominal angina. The pain in these cases may be most marked in the stomach or in the intestine, in the latter case being usually felt over the sigmoid and in the region of the umbilicus. Sometimes the pain directly follows the taking of food, and occasionally it is accompanied by angina pectoris. Intermittent claudication has also been observed as a concomitant symptom. The condition is ascribed to a sudden vascular spasm, and is most frequently observed in middle aged men, occasionally coming on without apparent cause at night. In treatment, iodides and nitroglycerine have proved most useful in affording relief.—*Russki Wratsch.*

Radium Therapy for Syringomyelia.

Duhain has treated cases of syringomyelia by means of radium emanations, and has come to the conclusion that the method is of considerable value. Muscular weakness and tactile anæsthesia, he states, soon become lessened, and later on sensibility to pain becomes restored. Restitution of temperature sense usually remains imperfect, but as a rule deep sensibility and the stereognostic sense become improved. Spontaneous pain often persists in spite of the treatment, but vasomotor and trophic disturbances rapidly disappear. Atrophic muscles, however, do not seem to improve.—Archiv. d'Elect. Med.

Rumpel and Leedes Phenomenon in Scarlet Fever.

The authors describe petechial hæmorrhages from artificial stasis, which ought to prove of considerable help in the diagnosis of scarlet fever (Munch. med. Woch., 1911, lviii. 293). During an epidemic, when making blood examinations, they noticed that hæmorrhages in the skin appeared on the distal side of the bandage used for compression. This phenomenon appeared almost without exception in several hundreds of cases of scarlet fever, the most typical lesions being found about the elbow. The small pin-head hæmorrhages disappeared quickly, but the larger ones remained for several days. This phenomenon appears fairly early in the disease, occurring sometimes before the eruption. The susceptibility to its occurrence diminishes as convalescence goes on, the reaction failing in large numbers of cases to take place after the twenty-first day. The reaction failed to take place only once in a typical case of scarlet fever, and this was possibly due to an excess of subcutaneous fat. To make the test a rubber band is placed round the upper arm, causing venous congestion and not occluding the arterial pulse. In fifteen minutes the bandage is loosened and the tender skin at the elbow is put on the stretch and examined, when a number of small dark petechial hæmorrhages are found to have developed.

The reaction depends on the resistance of the capillaries, which in scarlet fever is much impaired by the toxins of the disease. In doubtful cases in children where the throat signs were suspicious a positive result was always confirmed by the development of a scarlatin rash.

In other conditions it is quite exceptional to get a result similar to this lesion, but in measles occasionally petechial hæmorrhages are found.—Edinburgh Medical Journal.

State Board Examination Questions of Oklahoma.**ANATOMY.**

1. Name the parts common to all vertebræ. Name and describe the peculiar cervical vertebræ.
2. Describe the elbow joint.
3. Give origin, insertion, and nerve supply of the coracobrachialis muscle.
4. Describe the thoracic duct, giving origin and termination.
5. Describe the duodenum.
6. Briefly describe the arch of the aorta and name its branches.
7. Give the origin and name the principal branches of the musculospiral nerve.
8. Name the principal branches of the cervical ganglia of the sympathetic.
9. Give the histological difference between a cerebrospinal and a sympathetic nerve fiber.
10. Locate and give histological structure of the intestinal villi.

PHYSIOLOGY.

1. Name three kinds of impulses that pass over an anterior nerve root.
2. Trace a motor impulse from the cortex to a muscle of the face.
3. In what part of the brain would the impulse arise in the above question?
4. In the knee joint what kinds of tissue are represented in (a) the capsular ligament, (b) the semilunar cartilage, (c) the entire extremity of the femur?
5. (a) What nerves control the distribution of the blood, (b) the heart's action?
6. (a) By what organs is most of the carbon excreted, (b) most of the nitrogen?
7. Name all the nerves involved in sneezing.
8. Name five things that affect the character of a muscle contraction.
9. Name six secreting organs and an important characteristic in the process of two of them.
10. Name four purposes for taking food.

MATERIA MEDICA AND THERAPEUTICS.

1. Give indications for use of aconite.
2. Give symptoms and treatment of diabetes mellitus.
3. Give indications for use of belladonna.
4. Give etiology, symptoms, and treatment of pericarditis.
5. Give indications for use of quinine.
6. Discuss palpitation of the heart.
7. Give indications for use of veratrum viride.
8. Differentiate a functional derangement from an organic lesion.
9. Give indications for use of nux vomica.
10. Diagnose and treat diphtheria.

CHEMISTRY.

1. What is an element? Name ten ele-

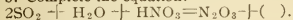
ments existing uncombined in nature.

2. Name the abnormal constituents of urine and the normal specific gravity of urine.

3. Define (a) precipitate, (b) filtration, (c) evaporation, (d) endomosis, (e) alloy.

4. How would you determine, chemically, whether a urinary deposit were composed of urates or phosphates?

5. Complete the equation:



6. Mention antidotes applicable in case of poisoning from iodine.

7. Chemically, what is albumin?

8. Mention some of the important physical, physiological, and chemical properties of ptomaines.

9. What are the antidotes for bichloride of mercury?

10. Describe your mode of procedure in making a chemical examination of suspected urine.

TOXICOLOGY AND MEDICAL JURISPRUDENCE.

1. Give symptoms of chronic mercurial poisoning.

2. How does chloral hydrate cause death?

3. What alkaline antidotes are most likely to be at hand in a case of emergency poisoning?

4. Give symptoms caused by eating poisonous fungi. In fatal cases how soon does death occur?

5. Give symptoms of acute and chronic arsenical poisoning.

6. Give symptoms of prussic acid poisoning and the appearance of the body after death from such cases.

7. Define "unprofessional conduct."

8. When may abortion be legally permitted?

9. In case of poisoning, the nature of the poison being unknown, how should the case be handled?

10. Give symptoms of aconite poisoning, of lead poisoning.

BACTERIOLOGY.

1. Name three ways by which you can prove that a microorganism is the cause of a disease.

2. Divide bacteria into three groups and explain each group.

3. Name the bacterium found in erysipelas and how does it spread?

4. Differentiate between *Bacillus typhosus* and *Bacillus coli communis*.

5. Give brief history of *Bacillus tetani* since 1884.

PATHOLOGY.

1. Describe the pathology of lung tissue in lobar pneumonia.

2. Give the pathology of acute yellow atrophy of the liver.

3. What is parenchymatous nephritis? Give its pathology.

4. Describe the pathology of tabes dorsalis.

5. Give brief history and pathology of senile gangrene.

6. When and where found: (a) Mucoid degeneration, (b) colloid degeneration, (c) hyaline degeneration?

7. Name four conditions in which tumors are distinguished, and give example of each.

8. Name three varieties of inflammation, give process of each.

9. Name three causes for arterial hyperemia. Give example of each.

10. Differentiate between thrombi and embolism.

PHYSICAL DIAGNOSIS.

1. Give physical signs of malaria.

2. Give physical signs of anemia.

3. Give physical signs of acute follicular tonsillitis.

4. Differentiate malaria from anemia.

5. Give physical signs of spasmodic croup.

6. Differentiate spasmodic croup from follicular tonsillitis.

7. Give physical signs of acute catarrhal dysentery.

8. Give physical signs of enteralgia (colic).

9. Give physical signs of a typical case of typhoid fever.

OBSTETRICS AND HYGIENE.

1. Define parturition.

2. When does the second stage of labor begin? Give your management of the second and third stages of normal labor.

3. What causes constipation during pregnancy? Give your treatment of same.

4. Diagnose a case of pregnancy at the end of the fourth month.

5. Give care of a seven-months' child when without the hospital advantages.

6. How would you determine the death of the fetus in utero after the fifth month?

7. Give treatment of breech presentation.

8. Give indication for producing podalic version. What precautions are necessary?

9. How is the typhoid germ transmitted? Give instructions to prevent spread of disease.

10. Give hygienic treatment of summer diarrhea in children.

GYNECOLOGY.

1. Describe and treat urethral caruncle.

2. Define prolapsus uteri, giving etiology, pathology, and treatment.

3. Give etiology and diagnosis of pyosalpinx.

4. Define vicarious menstruation.

5. Give symptoms of acute pelvic peritonitis.
6. Define and treat pruritus vulvæ.
7. What conditions may result from gonorrhea in women?
8. Diagnose ruptured tubal pregnancy.
9. Define amenorrhea, dysmenorrhea, menorrhagia.
10. What is subinvolution of the uterus? Give treatment.

SURGERY.

1. What are the symptoms of septic surgical fever?
2. What is the differential diagnosis between septicemia and pyemia?
3. What is hydrophobia and how is it treated?
4. What are the contraindications respectively to the use of the three principal general anesthetics?
5. What are the causes of secondary hemorrhage?

Examination Questions Tennessee State Board of Medical Examiners.

ANATOMY.

1. Describe the portal system.
2. Name the ductless glands.
3. What cranial nerve has the widest distribution?
4. Give the origin and insertion of the humeral biceps muscle.
5. Mention any one muscle that moves the humerus forward, backward or inward.
6. Describe Hunter's canal; (a) what passes through it?
7. Describe the periosteum.
8. What muscles are attached to the tendo Achillis?

PHYSIOLOGY.

1. Give composition and properties of chyle.
2. Give composition of the blood.
3. Describe secretion, properties, and composition of gastric juice.
4. Give the physiological anatomy of the testicles.
5. Describe the physiological anatomy of the tongue.
6. Give the physiological anatomy of the mammary glands.
7. Describe the excretion of urine.
8. Name all the enzymes required to digest bread.

PATHOLOGY.

1. What is stomatitis? Give the pathology of ulcerative stomatitis.
2. Describe any one pathological condition caused by the excessive use of alcohol.
3. Describe the pathological changes which take place in the lung in lobar pneumonia.

4. Give the pathology of parenchymatous goitre.
5. Describe the pathology of the inflammation of any one serous membrane.
6. Describe the pathology of chronic lead poison.
7. Describe the pathology of cerebrospinal meningitis.
8. Describe the pathological condition caused by the bite of a mosquito.

MATERIA MEDICA.

1. Write a prescription for chronic malaria and state how long the patient should take it.
2. Name two medicines which increase the flow of urine of urine. The source and dose of each.
3. What is the source of digitalis and hyoscyamus? What preparation would you use and the dose of each?
4. What is the source of potassium iodide and what is the dose? Name three diseases for which you would give it.
5. Give the source of iodide of lime and iodide of soda and the dose of each.
6. What is sodium sulphate?
8. What is the source of cascara sagrada? What preparation would you use and what would be the dose?

CHEMISTRY.

1. Describe Esbach's albuminometer and give a quantitative test for albumin.
2. Give a chemical test for pus in the urine, (a) for blood.
3. What is urea? (a) Its estimation? (b) Of what significance in nephritis?
4. What are alcohols and how classified?
5. Give chemical formula for iodoform; (a) how prepared; (b) physiological effects.
6. What is a simple ether? (a) Compound ether? (b) Formula for sulphuric ether?
7. What is benzine? (a) chemical formula and properties?
8. What is arsenic? (a) occurrence? (b) preparation? (c) properties? (d) Reinsch's test for arsenic?

OBSTETRICS.

1. Describe, anatomically, the internal generative organs of the female; (a) state the function of each.
2. What are the dangers of traction on the child and on the placenta?
3. What is involution? (a) how long a time is usually required for this process? (b) What causes may operate to delay or prevent it?
4. Describe the immediate care of the new-born child when from any cause the mother cannot nurse it; (a) give rules for artificial feeding.
5. Differentiate eutocia and dystocia. Mention important varieties of the latter

and give their management.

6. In a labor otherwise normal but tedious, how soon would it be proper to interfere, and what symptoms would prompt such a course?

7. When does it become proper to perform craniotomy, and how should that operation be performed?

8. Define puerperal phlebitis and give its pathology, symptoms, and treatment.

SURGERY.

1. How would you diagnose a case of complete inguinal hernia from a hydrocele, and describe the radical cure for hydrocele?

2. Describe in full Bassini's method of operation for the radical cure of hernia.

3. Give the nature of treatment of Potts' fracture.

4. Where does senile gangrene most often occur, and what is the usual cause?

5. Give symptoms and treatment of cholelithiasis.

6. Define peritonitis. State three ways in which the peritoneum may be invaded by bacteria.

7. What are the causes and treatment of paraphimosis?

8. Differentiate dislocation of the head of the femur from fracture of the neck, and give main essentials of treatment of each.

PRACTICE.

1. Name the organic diseases of the heart. Define aortic stenosis. Give the physical signs of it.

2. Define lobar pneumonia. Give general symptoms and diagnosis. Give briefly a treatment.

3. What is the pulse? Name some of the varieties of the pulse and their significance.

4. Define acute Bright's disease. What are the most frequent etiological factors which produce this form of kidney disease? Give a treatment.

5. Define leucocytosis. Define leukopenia. Name four diseases in which the leucocytes are increased in number. Name four diseases in which the leucocytes are normal or diminished.

6. Define diabetes mellitus. Differentiate between diabetes mellitus and diabetes insipidus. Give a diet for diabetes mellitus.

7. Define dropsy. Name four diseases which it accompanies. Given a disease producing it, how would you treat dropsy?

8. Name some of the common forms of tuberculosis. Give a modern treatment for pulmonary tuberculosis.

Contribution to the Study of the Ovarian Function by Unilateral Castration.

Francesco Valtorta has attempted to ascertain whether after unilateral castration the remaining ovary will take up success-

fully the entire ovarian function. To this end he castrated rabbits unilaterally and killed them after various intervals, examining the ovaries histologically. He found that there was a uniform increase in size of the remaining ovary, which was due to an increase in the number of Graafian follicles, with slight increase in the stroma and no evidences of changes in the vessels indicating sclerosis. Hence the author finds that the ovarian function is supplied by increase in size and function of the remaining ovary. —*Annali di Ostetricia et Ginecologia*.

Management of Post-Partum Bleeding.

After every labor, F. Heiman carefully observes the position of the fundus. If no bleeding occurs, the hand is pressed in over the symphysis half an hour after birth, to see if the umbilical cord recedes. If this is the case, the placenta has not yet separated, and expression is performed in 3 to 4 hours. If the placenta is free in the vagina, slight pressure upon the fundus will usually expel it. In case of bleeding, it is important to note the character of the blood. If arterial and of intermittent flow, a tear is likely. Immediate repair is necessary after expression. If the blood flows more continuously and is venous, the uterus will be relaxed and there is imperfect separation of the placenta and atony massage of the womb should be tried, later, Credes' expression, if necessary in narcosis. If this is ineffectual, the placenta must be removed manually under narcosis. Retention of the membranes alone usually is no cause for interference. If the placenta is out and the bleeding continues, the injection of secacornin and hot or cold douches will almost invariably check it. Numerous other methods have been suggested but the author has never found it necessary to resort to them. Thus, tamponade of the uterus is practiced by some, others bend the uterus over the symphysis, turn it spirally or compress it with special instruments. The subcutaneous or utero-muscular injection of adrenalin has been recommended as well as the application of a rubber bandage around the waist. Concerning the latter, the opinions are divided. As a last resort, vaginal or abdominal hysterectomy may be practiced, but it is clear that an exsanguinated woman will only rarely recover after so severe an operation. —*Muench. med. Woch.*

Treatment of Anemia.

It has been proven without doubt that salvarsan is without influence in leukemia. C. Leede has tried the drug in several cases of true pernicious anemia and has only seen

a further reduction in the hemoglobin and red cells and a rapid exitus. The only types of anemia favorably influenced by salvarsan are the secondary forms after malaria and syphilis, and here some remarkable results were obtained. Thus, in one case, the hemoglobin increased 20 per cent. in eight days. According to H. Eckhardt, the ammoniated arsenio-citrate of iron (Merck) is an excellent form of iron in all forms of anemia, secondary to tuberculosis, scrofulosis, hysteria, neurasthenia and in chlorosis. It is soluble in water and contains 1.4 per cent. arsenious acid and 15 to 18 per cent. iron. The internal dose is 0.03 to 0.07 Gm., the maximum daily dose 1 Gm. An excellent way to give the drug is by subcutaneous injection on three days of the week. Even in severe cases, there was a gain in weight, and a pronounced increase in the hemoglobin.—Muench. med. Woch.

Salvarsan Milk.

Jesionek has treated several syphilitic infants with the milk of syphilitic mothers that had first received a dose of salvarsan intravenously. There was some improvement of the symptoms but not nearly as pronounced as he had expected. In several cases an undoubted specific rash developed after the milk had been given. Analysis showed that there were appreciable amounts of arsenic present in the milk, but probably also some endotoxins and antibodies. He believes it would be more rational to feed such infants with the milk of cows or goats that had received a dose of salvarsan, since in this way no further endotoxins would be introduced into the system of the infant. In one case, when the experiment was tried, the curative effect was much more pronounced than after mother's milk. There is no doubt that the addition of more endotoxin to that already formed in the body of the child is a real danger which should be avoided.—Muench. med. Woch.

Infant Feeding.

M. Pfannndler gives the following simple rule for feeding children from the second to the sixth month. Take an amount of cow's milk corresponding to one-tenth of the weight of the child, add one-hundredth of the weight of carbohydrate and dilute with water to one litre. Divide into five meals and give of each as much as the child will take without urging. Up to the fourth month the carbohydrate employed should be some sugar (cane-sugar, milk-sugar, maltose, Liebig's soup, etc.) and 2 to 3 per cent. oatmeal water, later 3 to 4 per cent.

oatmeal, wheat or barley gruel. Since it is, however, impossible to tell in advance how a certain food will agree, it is always necessary to control the weight and temperature and to inspect the stool.—Therap. d. Gegenwart.

Treatment of Tetanus.

Baccelli, of Rome, says that antitetanic serum has proven a great disappointment in the treatment of tetanus, no matter which way it is introduced into the system. Carbolic acid, given subcutaneously in sufficient dosage, is still the best remedy at our disposal. A 2 to 3 per cent. watery solution is employed. At first, about 0.3 to 0.5 Gm. of the acid are injected daily to test the tolerance of the patient. If the urine remains free as much as 1 to 1.5 Gm. may be given during the 24 hours. Larger doses should only be used cautiously in very severe cases. According to the author's statistics, the mortality in severe cases could be reduced from 100 per cent. to 2.12 per cent., in very severe cases from 100 per cent. to 18.5 per cent. In a large percentage of the worst cases, less than one gram daily was injected, so that the statistics here are no proper criterion for the action of the drug. If desired, the acid may also be injected dissolved in sterile oil.—Berl. klin. Woch.

Salvarsan in Early Syphilis.

Blaschko sums up the action of salvarsan in early syphilis as follows: 1. An abortive cure may be possible, but further observation is necessary. 2. It is also impossible to decide as yet whether the administration of the drug will render the subsequent course of the disease milder where a cure has not been established. 3. The early symptoms often disappear very rapidly. 4. Advantages of the drug are its rapid action, simple and painless mode of application, its general tonic action and often specific effect upon painful lesions, and its power to heal where mercury fails; its disadvantages, the fugitive action and possibility of nerve disturbances. 5. Except in cases where the effect of this drug alone is to be tested, mercury should also be given early in the disease. 6. There is no real occasion to use salvarsan in recent syphilis, except where mercury cannot be employed. 7. Whether salvarsan will become as popular in the treatment of syphilis as mercury will depend upon the frequency and severity of the nerve lesions following its use.—Therap. d. Gegenwart.

Calcined Magnesia for Laryngeal Papilloma.

The treatment of multiple laryngeal papillomata is a much-discussed question. Some

surgeons advise tracheotomy solely with the idea of putting the larynx totally at rest, others advise thyrotomy, and of late laryngostomy has been tried with a certain measure of success. Claoue, in a communication to the Society of *Medecine de Bordeaux*, describes two cases of the disease in which none of these methods could be carried out, and in which he accordingly removed the tumors carefully by the direct route under chloroform, only to find a month later that recurrence was complete. It then struck him that the papillomata had much in common histologically with the ordinary warts of childhood, and he accordingly determined to give each of his patients a course of treatment with calcined magnesia. The first was given massive daily doses of 80 grains of the drug over a period of two weeks, after which improvement was marked. A rest of two weeks was then allowed, followed by eight grains daily for four months, when the cure was found to be complete. The second patient was treated by regular doses of eight grains over a period of five months, at the end of which he had recovered his voice and all trace of papillomata had disappeared.—*The Hospital, London.*

Renal Function in Acute Nephritis of Infants.—Nobecourt (*La Med. Infant*) discusses the investigation of renal function by the determination of sodium chlorid and urea elimination as a basis for the estimation of prognosis and treatment. The Dr. says that the amount of albumen, the findings in the sediment or the methylene blue test are not conclusive in estimating kidney function. The writer would divide all cases of nephritis into three groups; first, those with simple albuminuria; second, those with chlorin retention, and third, those with urea retention. A fourth group would contain combinations of these. The first group, simple albuminuria, occurs, usually following a fever or secondary to some condition elsewhere in the body. The sodium chlorid and urea elimination is normal in these cases and they show no symptoms referable to the albuminuria. In the second group of chlorin retention, the patients have edema, scanty urine which is high colored and contains blood and casts. Frequently there is also vomiting, diarrhea and convulsions. The essential phenomenon of this group is the retention of sodium chlorid, upon which is dependent the accumulation of water. With the improvement in the condition of the patient the elimination of sodium chlorid increases and therefore the edema disappears. In the second group of urea retention there is slight edema not accompanied as a rule with increase in body weight and

there is no retention of sodium chlorid. The most characteristic symptoms are loss of appetite, nausea and vomiting. The retention of urea may be demonstrated in the cerebrospinal fluid. In the last or combined group there is a certain amount of sodium chlorid retention with only moderate edema and some gain in body weight, and there may be moderate retention of urea. Simple albuminuria does not produce changes either in blood pressure or in the size of the heart. In the type with chlorin retention one may see both increased blood pressure and cardiac hypertrophy. These changes go along with increase in body weight and are not of great consequence, but in the type of cases with urea retention either alone or in combination there is almost always increased blood pressure and temperature and also increase in the area of cardiac dullness. It is possible for a case starting as simple albuminuria to progress to either one of the other types. The treatment of simple albuminuria can practically be neglected, except that it is advisable to put the patient on a milk diet. In the form of chlorin retention the milk should be reduced to a minimum amount because of its large water content and the necessary food value should be supplied by the addition of cereals. Frequently in these cases the disappearance of the edema may be accelerated by the administration of diuretics. In the cases of simple urea retention, and the combined urea and sodium chlorid retention the diet should begin with small amounts of milk which may be gradually increased and other articles rapidly added, always keeping the amount of albumen small. These indications are applicable only to cases of acute nephritis; cases of chronic nephritis should be considered from a different point of view. He cites cases illustrating various types of nephritis and their response to appropriate treatment.

Nervous Vomiting in Infants.—Rott (*Therapeutische Monat. Ber.*) discusses the vomiting which resists correction of the diet and for which no cause can be discovered. In this form the vomiting generally starts during the first weeks of the child's life, and it may simulate the clinical picture of pyloric spasm except for the lack of peristalsis in the stomach and of the palpable tumor at the pylorus. He has encountered six cases of this kind during the last two years; in three the vomiting was of an explosive character, immediately after the meal or an hour or so later. Only one of the six infants had reached the fourth month; two were breast-fed and all showed signs of nervous irritability, the children being remarkably restless before the vomit-

ing came on, and the muscles were tense. In four cases an inherited nervous taint was evident. The facts observed suggested that the trouble was a hypersensitive condition of the stomach mucosa due to a congenital nervous irritability. Treatment to reduce this irritability proved remarkably successful in his cases, he gave 10 c.c. of a 0.01 per cent. solution of cocain, that is, 1 mg. of cocain, five times a day, ten minutes before feeding. In three cases the tendency to vomiting completely disappeared within three days; in one case the vomiting recurred on one day after an interval of four days. The author gave the cocain for six days regardless of whether the vomiting had ceased, and no by-effects were observed suggesting intoxication, although all the children quieted down. The attempts of others with cocain have failed because it was given with the meals, too late to suppress the irritation from the food. The children have all developed well since, says Rott, except that some are still unduly nervous. In two other cases the vomiting was not influenced by the cocain; it was never of a spastic character, the stomach content flowing without effort out of the mouth, once a day or after each meal. The abdomen and muscles were generally flabby and the vomiting seemed to be due to atony, on which the cocain had no effect. One child died; the other grew stronger as the vomiting gradually subsided in the course of a few weeks, but the child developed a tendency to spasmophilia. In two cases of pyloric spasm the cocain was given in the same way and the vomiting became less frequent, the stools normal and the children less restless. These results encourage further trials of cocain with pyloric spasm, possibly combined with other sedatives.

Influence of Salicylates on Thyroid Activity.—Waller (British Medical Journal) in order to prove his contention that salicylates have a powerful influence against thyroid activity gives three cases for example. For instance a robust adult had an acute tonsillitis. He had stuck to his work for three or four days when Waller first saw him one morning. He had then taken to his bed with a pulse-rate of 120 and temperature 102 F. He had headache and aches and pains in the limbs severe enough to suggest rheumatism, but possibly only influenzal. He was given a mixture containing 15-grain doses of sodium salicylate and $\frac{1}{2}$ -grain doses of compound tincture of cinchona. But owing to variations in the size of the domestic tablespoon, he repeatedly took a larger dose, roughly, 20 grains of salicylate and 40 minims of bark, every four hours. He then had a (morn-

ing) pulse rate of 48 and temperature of 96.4 F. He had sweated profusely the first night, and his bowels were obstinately constipated, resisting strong doses of aperient. The pulse and temperature remained at this low level all the next day, and the bowels were still obstinately constipated in spite of aperients, though the salicylate mixture had been left off. Thyroid, $2\frac{1}{2}$ gr., twice a day, was then given for two days, and the temperature again rose, this time to nearly 101 F., and the pulse to 98. The throat progressed rather slowly in spite of energetic antiseptic treatment which had given excellent results in other cases. The patient returned to work twelve days after the author first saw him, when in spite of full doses of strychnin he had a very soft dicrotic pulse of 76 and a blood-pressure of only 100 mm. mercury.

Tuberculin Treatment in Surgical Tuberculosis.—Wilms (Deut. med. Woch.) believes from his clinical experience that the fungous forms of tuberculosis generally give a negative cutaneous tuberculin reaction. The cutaneous test therefore is no clue to diagnosis or prognosis unless the reaction is positive. On the other hand, with a fistulous or suppurating tuberculous process a negative reaction indicates a condition of cachexia. He has found tuberculin treatment especially advantageous in the forms of fungous tuberculosis giving a negative Pirquet reaction; the tuberculin treatment aids powerfully the natural tendency to heal. The slight reaction in such cases enables the dose to be rapidly increased. Combined treatment with tuberculin, roentotherapy, etc., is going to supersede surgical measures in treatment of tuberculosis, he thinks, more and more each year. The task is not only to remove the focus by an operation but to make the organism more resistant to reinfection. He is convinced that the cure of a tuberculous glandular process by conservative measures leaves the patient in better condition than when the lymphoma has been early removed. In the first case the body has been rendered strong by its struggle with the glandular tuberculosis and is thus more resistant against the unavoidable opportunities for new infection; while in the other case the body is equally sensitive as before to new infection and recurrence is almost inevitable unless tuberculin treatment comes to its assistance. The author says in conclusion that the scrofulous glandular swellings in youth may represent the period during which the organism is immunizing itself against the ubiquitous tuberculosis infection. Consequently he pleads for greater reserve in removing these protecting and

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battling organs. If an operation is indispensable on account of suppuration then the body should be re-enforced by a course of tuberculin.

Seaboard Medical Association Assembles at Newport News, Va.

With more than a hundred physicians from Virginia and North Carolina in attendance, the sixteenth annual session of the Seaboard Medical Association was held on December the 5th, in Newport News, Va., with an address by Dr. E. A. Alderman, president of the University of Virginia. Addresses of welcome were delivered by Mayor Maryus Jones, W. B. Collona, president of the Chamber of Commerce, and Dr. Joseph T. Buxton, president of the Newport News Medical Association.

This meeting was largely attended by some of the most able physicians of this country. The papers were exceptionally fine, and some of them were the source of much discussion among the doctors.

The following is a list of the papers read before this meeting:

"The Prophylaxis of Malaria in the Tidewater Country"—Major Hugh S. Cumming, U. S. P. H. & M. H. S., Fortress Monroe, Virginia.

"Hernia"—Dr. Edward E. Field, Norfolk, Va.

"Puerperal Eclampsia"—Dr. W. B. Barmham, Newsoms, Va.

"Preventative Phases of Gynecology"—Dr. J. H. Hiden, Pungoteague, Va.

"Observations in the Use of '606' and Its Administration"—Capt. Arthur M. Whaley, U. S. A., Fortress Monroe, Va.

"Blood Clot in Surgery"—Dr. Lucien Lofton, North Emporia, Va.

"Report of a Case of Traumatic Destruction of Left Kidney—Recovery"—Dr. Wm. Breckenridge Smith, Rip Raps, Va.

"Anterior Poliomyelitis"—Dr. George W. McAllister, Hampton, Va.

Luncheon, Hotel Warwick, tendered by the Chamber of Commerce.

"Symposium on Bacterial Therapy"—(To be illustrated by lantern).

"Tetanus"—Dr. J. E. Malone, Louisville, N. C.

"Styphlo-Bacterius"—Dr. D. J. King, Williamsburg, Va.

"Typhoid Immunization"—Dr. George J. Williams, Newport News, Virginia.

"A Plea for Early Use and Large Doses of Antitoxin in Diphtheria"—Dr. Harry D. Howe, Hampton, Va.

"Bacterin and Serum Therapy"—Dr. F. E. Stewart, Philadelphia.

"Impacted Fracture of the Hip Joint"—Dr. Stanley H. Graves, Norfolk, Va.

"Life Insurance in the Field"—Dr. Albert Anderson, Raleigh, N. C.

"Leg Amputations from the Standpoint of Utility"—Major Louis A. Thompson, N. H. D. V. S., National Soldiers' Home, Virginia.

"Preventable Invalidity"—Dr. W. A. Hoggard, Hertford, N. C.

"Typhoid Fever"—Lieutenant Commander Rand Percy Crandall, U. S. N., Portsmouth, Va.

"The Prevention of Typhoid Fever in the Military Service"—Major Frederick P. Reynolds, U. S. A., Fortress Monroe, Va.

"Submucous Resection of the Nasal System"—Dr. H. W. Carter, Washington, N. C.

"A Certain Tabooed Aspect of Preventive Medicine"—Dr. Roy K. Flanagan, Richmond, Va.

"An Experimental Study of the Effect of Intravenous Infusions on the Mammalian Heart"—Dr. Wm. deB. Mac Nider, Chapel Hill, N. C.

Thursday, December 7th, 1:00 p. m.—Oyster Roast, Ball Park.

"Prolapse of Uterus—The Surgical Treatment"—Dr. J. E. Rawles, Suffolk, Va.

"Remarks on Extra-Uterine Pregnancy, with Report of Cases of Interstitial (Cornual) Pregnancy"—Dr. Kirkland Ruffin, Dr. Lomax Gwathmey, Norfolk, Va.

"Fraternity Among the Medical Profession"—Dr. J. W. Falvey, Longview, Texas.

"The Doctor and His Influence"—Dr. Ira M. Hardy, Washington, N. C.

"Cysts and the Round Ligament"—Dr. Joseph T. Buxton, Newport News, Va.

Neurasthenia.—Raymond (Journal des Practiciens) reports an interesting case of neurasthenia. A young working girl, 21 years old, entered the Hospice de la Salpetriere in a great state of suffering. She complained not only of gastro-intestinal troubles—painful digestion, nausea on waking in the morning—but above all of great fatigue and a pressing headache at the vertex. She was an emotional patient, daughter of a habitual drunkard, and she had witnessed many violent family quarrels. Moreover, she asserted to be in love, and a series of moral shocks acting upon a soil already prepared by heredity, explains the origin of her present condition. This patient was at the outset of a state of neurasthenic depression. If not attended, she might have fallen the victim of a psychoneurosis. Actually she had a tendency to hypochondriac mentality. But the form of the neurosis may be according to occasional circumstances. The treatment should be essentially based on the re-education of the will.

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Physical Demonstration of the Thymus.

—Basch and Rohn deal extensively with this subject, appending a bibliography. Their conclusions are as follows: Through the combination of accurate percussion in the mediastinal region, as carried out by a new instrument devised by the authors, and auscultation-percussion and auscultation for friction sounds, it was possible to ascertain the size and quality of the thymus in the child. The author investigated systematically 140 cases, learning thereby that the

area of thymus dullness varies according to the age and state of nutrition of the child, and further with the presence of certain pathological conditions. Normally the area of thymus dullness has a rhomboid form. It extends from the throat above to the second or third rib below. Its lateral limits extend through the sternal and parasternal lines. These finds were checked up by autopsy cases.—Deutsche medizinische Wochenschrift.

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Gastrointestinal Radiography a New Auxiliary in Legal Medicine.

Vaillant says that we can control by radiography the earliest phases of infantile life, since we get different appearances according as the lungs have or have not been inflated at birth. Infants which have never lived at all show no visible organs; those which have inspired a few times show the stomach slightly; when the child has lived an hour the stomach is more transparent and the intestine becomes visible; when the child has been fed the lungs as well as the abdominal organs become visible, the liver is seen and then the heart comes into view. Infants which have been fed regularly show all the organs, and the gas in the intestine causes a more intense image of the intestines. In case of the death of a newborn child the lapse of time between birth and death is indicated by these radiographic appearances within certain limits. These appearances are of medicolegal value.—*Journal de Medecine de Paris.*

The Internal Secretion of the Prostate.

Lerallach and Parez (*Revista de Medicina y Cirugia Practicas*) have carried out at the Municipal Bacteriological Laboratory of Barcelona, a great number of experiments on dogs with the object of ascertaining the action of the internal secretion of the prostate gland. These experiments are the continuation of a series, the results of which have already been published (*Societe de Biologie, Paris, December 28th, 1907, vol. lxiii., p. 790*). From these it appears that the prostate gland exercises a powerful influence upon the testicles and upon spermatogenesis. It was found that in dogs whose prostate had been as far as possible (that is, not completely) removed, the testicles atrophied, and spermatozoa disappeared from the semen. If, however, contemporaneously or previously to the removal of the gland, a portion of it was engrafted in the subcutaneous tissue of the animal, or an extract of the gland given by the mouth, these consequences were averted. It was also found that a glycerine extract of the prostate gland, injected intravenously, caused a marked testicular vaso-dilatation and spontaneous emission of semen from the vas deferens. In order to answer the objection that in these experiments the prostate was never completely removed, the authors made many attempts to devise a method of operating which would enable them to remove every vestige of prostatic tissue without at the same time vitiating the results of the experiment in other ways. They chronicle here their success in this attempt, and describe the consequences of



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the removal of the prostate gland complete "in the most absolute sense of the word."

Here, as in the former experiments, the dogs without a prostate suffer an atrophy of the testicle and a suspension of spermatogenesis, shown during life by the absence of spermatozoa from the semen, and when the testes are examined microscopically, by the absence of the transition forms of sperm cells. Micro-photographs are shown of sections of the testes of dogs at varying periods after complete prostatectomy. At the end of about a month the seminiferous tubules are seen to be totally deprived of seminal epithelium, the cells of Benza are absent, and the picture is one in which all the characteristic features of a normal testicle are absent. The authors describe an experiment made with the object of demonstrating the action of the secretion of the prostate. Two puppies, as nearly as possible alike, were taken from the same mother. When they were 61 days old one of them was given daily doses of extract of prostate gland for about five weeks; the other was kept as a control. At the end of five weeks a testicle of each was removed and examined microscopically. It was found that the testicle of the animal which had taken prostatina was in a much more advanced stage of development than the other. Micro-photographs are given. During the progress of the experiment it was observed that a marked difference appeared in the growth and demeanor of the puppies. The one which took the extract of prostate gland was much thinner, livelier, and more inquisitive, intelligent, and excitable than the other.—British Medical Journal.

Words of Appreciation.

The following letter, relating to the treatment of opium and other addictions, will interest many. It is addressed to our old friend, The Antikamnia Chemical Company, and reads:

"Gentlemen:—Illness, dating from the very day of my former letter, must be my plea for my silence and my seeming indifference to your courtesy, and your exceptional kindness in sending me your little 'Vest-Pocket-Box.' I want you to feel that I sincerely appreciate your goodness in this little matter. I am in charge of The Woolley Sanatorium, Atlanta, Ga., an institution conducted exclusively for the cure of opium and other drug addictions, and am using Antikamnia Tablets extensively after withdrawing morphia, and I am free to say that I do, in reality, regard your product as 'A Succedaneum for Morphia.'

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should prove of value to you at any time, command me."

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An Important Move to Insure Physiologically Active Ergot and Digitalis.

The H. K. Mulford Company have again demonstrated their scientifically progressive policy in announcing that from this time, special labels with the date on which all fluid preparations of ergot and digitalis were physiologically tested and approved by their laboratories, will be placed upon each package.

We have become accustomed to seeing the date of manufacture on the labels of serums, vaccines, bacterines, etc., and it is not surprising to see this progressive firm take the lead in placing dated Galenical on the market. The new dating system will be applied however only to the liquid preparations of those two of the most important of our vegetable drugs, ergot and digitalis, which are particularly prone to deterioration.

There is no necessity for placing the date of assay on most Galenicals for, fortunately, most of them are quite stable when care is used in their storage. Coca is an exception, it is true, but little Coca is used or should be used for its active principle, and hence it can be declared that most Galenicals are quite stable.

In the case of fluid preparations of digitalis and ergot, particularly the latter which is so often employed as an emergency remedy, it is not right that the physician should be subjected to the possibility of employing an old, and perhaps weaker product. Because of the possibility of their deterioration, the H. K. Mulford Company proposes to safeguard pharmacist, physician and patient, by making it possible for the physician to prescribe and the pharmacist to dispense only preparations of digitalis and ergot which have recently been tested and standardized—physiologically and chemically.

For this advanced step, the H. K. Mulford Company deserves great credit, for they not only place the date of test on each package, but they recommend the purchase of quantities to supply the pharmacist's needs for not longer than six months. They cannot do more, for no one can tell how long those preparations will keep. Preparations two or three years old have been tested and found entirely satisfactory for use, and on the other hand a considerable deterioration has occurred in less than one year. Liquid preparations of these drugs should remain satisfactorily active, however, for at least a year if they are kept in a cool place, protected from the light.



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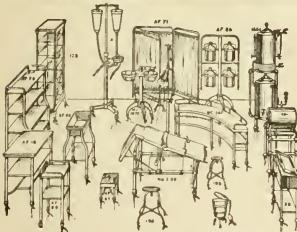
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State Board Examination Questions of Oregon.

ANATOMY.

1. Name and give the nerve supply of each of the muscles that move the eye.
2. Name the foramina found in the base of the skull. State the bone or bones in which each is found.
3. Describe the occipital bone.
4. Describe the formation and give the branches of distribution of the brachial plexus of nerves.
5. Through what vessels and openings would a blood corpuscle pass in going from the vermiform appendix to the lower horn of the right lateral lobe of the thyroid gland?
6. Name the structures that would be severed in an amputation of the thigh at the apex of Scarpa's triangle.
7. Give the course and distribution of the branches of the celiac axis.
8. Give the structure of the urinary bladder, and give the vessels from which it receives its blood supply.

PHYSIOLOGY.

1. Describe the different forms of muscles in the human body and where each form is found.
2. Describe the act of respiration.
3. Give the functions of the liver.
4. Describe the process of digestion.
5. Give the functions of the blood.
6. Name the most important ductless glands in the body.
7. Give normal quantity of urine passed in twenty-four hours; (a) give composition of normal urine; (b) when carbonates occur in urine is it alkaline or acid?
8. Describe osmosis, endosmosis, and exosmosis.

HISTOLOGY.

1. Give the histological structure of a long bone as seen in a cross section.
2. Name in order the histological structures concerned in the process of the formation of urine from the blood and its delivery to the pelvis of the kidney.
3. Name the corpuscular elements found in normal human blood, and give the relative number of each variety of corpuscles.
4. Give the microscopic structure of a lobule of the liver.

PATHOLOGY.

1. How would you differentiate chlorosis and pernicious anemia?
2. Give pathology of acute lobar pneumonia.
3. Describe the changes taking place in chronic interstitial hepatitis (cirrhosis of the liver).
4. Give pathology of acute infectious osteomyelitis.

CHEMISTRY.

1. How would you detect the positive pole in a galvanic battery, and how would you know the negative pole in a faradic battery?
2. What is meant by the equivalence of an atom?
3. What is chlorine? What is its symbol? What is its atomic weight? What is its molecular weight? What is its specific gravity?
4. What are the antidotes for poisoning with the alkaline caustics?
5. For what is Trommer's test used, and how is it used?
6. For what is the Petenkofer test used, and how is it used?
7. What is the ultimate origin of urea in the human body, and how much is the normal daily excretion?
8. What is an alkaloid, and what is a general chemical antidote for poisoning with alkaloids?
9. What are ptomaines? Name three ptomaines? Are all ptomaines poisonous?

DIAGNOSIS.

1. Give the differential diagnosis between acute miliary tuberculosis and typhoid fever, without the Widal test. (b) What are the symptoms of intestinal perforation in typhoid?
2. How would you distinguish acute poliomyelitis anterior, in which the lesion involves the face and hand centers, from tubercular meningitis?
3. Give a complete picture of acute gastric ulcer.
4. What symptoms would lead you to suspect chronic interstitial nephritis without examining the urine?
5. Give symptoms of diabetes mellitus without urinary findings.
6. What symptoms would lead you to suspect abscess of the liver?
7. Give the symptoms of hyperhydrochloruria.
8. Give physical signs of fibroid phthisis.

MATERIA MEDICA AND THERAPEUTICS.

1. Give antidotes for the following poisons: (a) Oxalic acid. (b) Corrosive sublimate. (c) Arsenic. (d) Gelsemium. (e) Copper sulphate. (f) Iodine.
2. What are the physiological effects of ether inhalations?
3. Name the incompatibles of silver.
4. Name two drugs classed under the following: (a) Vesicants. (b) Irritants. (c) Escharotics. (d) Rubefacients. (e) Diaphoretics. (f) Diuretics. (g) Anthelmintics. (h) Cardiac depressants.
5. What are the physiological effects of digitalis?
6. Give the therapeutic uses of aconite.

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7. How do drugs classed as emmenagogues differ from ecboolics?

8. How much cocaine would you use for a 3 per cent. solution in a two-ounce mixture?

PRACTICE OF MEDICINE.

1. Describe the rash and give the morbid anatomy of scarlatina.

2. Give the etiology and pathological nature of acute endocarditis. If the patient recovers, what permanent pathological condition results?

3. Give the morbid anatomy of acute lobar pneumonia.

4. Differentiate neuritis from neuralgia.

5. Differentiate diphtheria from follicular tonsillitis.

6. Give the period of incubation and of eruption of the exanthemata.

7. On what symptoms would you base a diagnosis of typhoid fever?

8. Differentiate embolism and thrombosis.

DISEASES OF CHILDREN.

1. Give etiology, symptoms, prognosis, and treatment of retropharyngeal abscess.

2. Define tetanus; give causes, symptoms, and prognosis.

3. Define pericarditis, myocarditis and endocarditis. (a) Give causes of each.

(b) Give diagnostic points of each.

4. How would you differentiate between pleurisy, lobar pneumonia, and empyema?

5. State the capacity of stomach in infant one day old.

6. Give etiology, pathology, symptoms

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and treatment of acute gastroenteritis.

7. Having made diagnosis of a case of diphtheria, what instructions would you give to prevent spread of disease and give treatment of case.

8. Give etiology, symptoms, and treatment of membranous croup.

NERVOUS DISEASES.

1. Define thrombosis, an embolus, a cerebral hemorrhage.

2. Name a disease having its morbid lesion in (a) the anterior columns of the cord, (b) the lateral columns, (c) the posterior columns.

3. Give symptoms of labioglossopharyngeal (bulbar) paralysis when fully developed.

4. How would you diagnose a case of epidemic cerebrospinal meningitis?

SURGERY.

1. Bound Scarpa's triangle; mention the vessels and nerves in it, and tell how you would ligate the superficial femoral artery.

2. In an amputation of the forearm three inches above the wrist, what arteries will it be necessary to tie, and of what are they branches?

3. What surgical landmarks of the elbow-joint would aid you by their position in diagnosing between a fracture of the upper end of the radius and a posterior dislocation of the ulna?

4. What is genu valgum? State how it should be treated.

5. What structures are divided in the operation for strangulated femoral hernia.

6. What symptoms follow division of the radial nerve?

7. Give the differential diagnosis of pelvic peritonitis and impaction of feces.

8. What are the chief surgical diseases of the groin?

OBSTETRICS.

1. Describe the development of the chorion.

2. What is the connection or relation between ovulation and menstruation?

3. Give differential diagnosis between pregnancy and ascites.

4. What is the characteristic symptom of placenta praevia? What is the proper management of the case?

5. What is meant by the term Crede's method?

6. What is the proper method of procedure in a case of arrested labor, when the arrest is caused by interlocked twins?

7. What procedure would you follow in a case of asphyxia neonatorum?

8. What is meant by the term, and what are the causes of, icterus neonatorum?

9. What are the indications that would induce you to perform podalic version, and

how would you perform the operation?

GYNECOLOGY.

1. Describe in full the operation for abdominal hysterectomy.

2. Give the causes and treatment of non-specific vaginitis.

3. Symptoms and treatment of cystocele.

4. Describe operation for rectocele.

5. What benefit is derived from intra-uterine applications? (b) What harm may follow the above treatment?

6. What are the physical signs and treatment for a prolapsed ovary?

7. What is meant by the following terms: menorrhagia, metrorrhagia, metrorrhea, amenorrhea?

8. Give treatment for menorrhagia; for amenorrhea.

EYE AND EAR.

1. Acute otitis media; give cause, symptoms, complications, and treatment; indications for opening the ear drum, give landmarks of ear drum, point of selection in paracentesis, and dangers attending the same.

2. Cause, diagnosis, complications, and treatment of acute mastoid abscess.

3. Give the symptoms, prognosis, and treatment of acute glaucoma, differentiate between acute glaucoma and iritis.

4. Give cause, symptoms, complications, and treatment of ophthalmia neonatorum.

LEGAL MEDICINE.

1. Under what circumstances may a physician be justified in producing an abortion, and how is the operation performed?

2. Give the symptoms of arsenical poisoning. How would you demonstrate that arsenical poisoning had been the cause of death in a given corpse?

4. A corpse is presented, death being caused by hypodermic injection of morphine. Tell how you would demonstrate the fact before a court?

4. A person having died from an overdose of strychnine, tell the various steps and methods you would employ to enable you to testify intelligently to the facts before a court.

Tongaline exerts a manifest action on the nervous system of the secreting order of glands, it diminishes the uric acid content of the blood, and produces a substitutive irritation in the region of the articular surfaces. On account of the exaggerated vasomotor action of Tongaline, the irritation drives the uric acid deposits toward the emunctories, causing a great secretion of bile in the liver, an abundant diuresis in the kidneys and a serous diarrhoea in the intestines, while in the feces and in the

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urine we find a great quantity of uric acid.

These conditions secure the attainment of the desired effect, which is to expel from the organism all those agents, the accumulation and retention of which in the blood are the cause of rheumatism, neuralgia, grippe, gout, nervous headache, malaria, sciatica, lumbago, tonsillitis, heavy colds and excess of uric acid.

Injuries of the Abdomen.

Richard v. Hippel continues his consideration of this subject. He says that the stereotyped description of dullness in the right flank as due to injuries of the liver and of that in the left flank as due to injuries of the spleen is not at all applicable to all cases. The dullness due to the blood effusion may be found anywhere, according to the various positions of the body assumed after injury. Liver dullness at first is unchanged; soon after injury it may be increased because of the collection of blood near the liver, later it may diminish because of the developing meteorism or dislocation of the liver itself. With the development of peritonitis liver dullness progressively diminishes. The same signs may accompany injuries of the spleen. Fortunately, however, it is not important to decide which organ is the seat of injury and hemorrhage, for an abdominal section is indicated in any case. Surgeons, too, should not be so inclined to wait until the symptoms of shock have entirely subsided. Shock will usually disappear with the cessation of hemorrhage, and frequently this stilling of hemorrhage can only follow an operation.

Injuries of the stomach usually give signs of free air in the peritoneal cavity and a metallic percussion note or simple hyperresonance, changing in site with change in position of the patient, should be diligently sought for. Circumscribed dullness, if found, should be immediately marked out on the abdominal wall; it may be due to an exudate and the increase in size may clinch the diagnosis. Larger area of dullness usually mean perforation of the small intestine with the infection of the peritoneal cavity by a considerable quantity of fecal material. Of course, none of these signs may be present in any given case. If, a short time after injury, the pulse is quickened, tenderness and reflex spasm of the abdominal muscles have appeared, there is spontaneous pain on deep inspiration, and the patient has become somewhat restless, injury of the intestines must be suspected, if there are no signs of extensive internal hemorrhage.

Ruptures of the urinary bladder are usually accompanied by fractures of the pelvis. Direct injury may rupture an overfilled

bladder and this usually happens in drunkards. Vesical tenesmus, ineffectual or resulting only in the appearance of a few drops of blood at the meatus, is a very frequent symptom. Catheterization usually confirms the diagnosis; the difficulty is in deciding whether extraperitoneal or intraperitoneal rupture has taken place. V. Hippel closes his lengthy paper with the urgent advice to send all patients in whom an intra-abdominal injury is suspected to a hospital, so that immediate operation may be performed if the suspicions are confirmed by further study of the symptoms.—*Zeitschrift für Versicherungsmedizin.*

Technique and Indications for Gaseous Injections in the Treatment of Pleural Effusions.

Lemoine advocates the use of gaseous injections in pleural effusions and gives the technique and the indications for their use. In serofibrinous pleurisy they are indicated in abundant effusions, when they are to be drawn off. If all the fluid be removed at once the sudden expansion of the compressed lung tissue does harm, but if we partially replace it with air or oxygen the expansion is less rapid. In chronic recurring pleurisy, resulting from tuberculosis, the injection of air has a similar effect to the entrance of air into the peritoneum. In pleurisy, in which a portion of the fluid flows out on aspiration and then the exit becomes clogged, the entrance of gas causes the fluid to begin to flow again. In pleurisy, with large unilateral tuberculous lesions, oxygen introduced has a beneficial effect. In purulent pleurisy it is less useful.—*Le Nord Medical.*

Operative Treatment of Gastric Crises.

Foerster maintains that in severe cases of gastric crises in which, as a result of inanition and morphinism, life is endangered, and in which other therapeutic measures have failed, an attempt to secure relief should be made by resection of the posterior dorsal nerve roots from the seventh to the tenth inclusive. The author thinks that the gastric crises arise from a painful irritation of the sensory sympathetic gastrointestinal nerve fibres which reach the cord in the dorsal nerve roots. Altogether 28 cases have been operated on. Of these, three died as a direct result of the operation, and in two cases no benefit was obtained. In the remaining 23 there was a prompt cessation of the crises, the weight increased, and the general health improved. In a few cases the crises returned later on. Sometimes paralysis of the bladder, with subsequent cystitis, and temporary intestinal atony with meteorism follow the operation.—*Therapie d. Gegendur.*

Fellows_Syrupus Hypophosphitum.

Maxima cum cura commixtus semperque idem.

Compositio prima ante alias omnis.

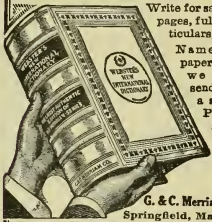
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Exophthalmic Goiter in a Boy of Ten.

Wynter reports the case of a boy who exhibited undue prominence of the eyes at the age of 10, nearly a year ago. When admitted to the hospital there was obvious proptosis, with all the usual signs. The thyroid gland was enlarged, both isthmus and lobes; the fingers, when extended, exhibited fine tremor; the skin was moist and flushed, and about the hands and neck showed yellowish pigmentation. There had been no cramps, but the patient had faint attacks, flushes and occasionally showed temporary puffiness of the face. There was incontinence of urine, which contained a trace of albumin. The pulse ranged from 92 to 124. Thyroidectin was given in five-grain doses twice a day. On two occasions pituitrin was substituted, but the pulse rose to 110 and 124 under its influence, falling to 96 when it was discontinued. The case was a mild one, but exceptional on account of the sex and age of the patient. —Proceedings of the Royal Society of Medicine.

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SPECIAL WESTERN NUMBERS

In furthering the plan of producing special issues of the **American Journal of Surgery** composed of contributions by surgeons residing within a certain geographical area, yet of international reputation there will be issued in the early part of 1912 a **Special Western Number** of this magazine.

Subjects and those to contribute:

The Operation of Gastroenterostomy, by William J. Mayo, Rochester, Minn.

The Surgery of Tendons, by John B. Murphy, Chicago, Ill.

Operative Treatment for Graves Disease, by George W. Crile, Cleveland, Ohio.

Colonic Intoxication, by J. E. Binney, Kansas City, Mo.

Practical Points in the Surgical Treatment of Exophthalmic Goitre, by A. J. Ochsner, Chicago, Ill.

Treatment of Foreign Bodies in the Esophagus, by E. Fletcher Ingals, Chicago, Ill.

Brain Surgery Technique, by J. Rilus Eastman, Indianapolis, Ind.

Treatment of Abscesses and of the Necrotic Foci Resulting from the Use of Salvarsan, by A. Ravolgi, Cincinnati, Ohio.

Treatment of Prostatic Obstruction, by E. O. Smith, Cincinnati, Ohio.

Subject not Announced, by H. Tuholske, St. Louis, Mo.

Artificial Tendons and Ligaments in the Surgical Treatment of Paralysis, by Nathaniel Allison, St. Louis, Mo.

Uterine Cancer, by John C. Murphy, St. Louis, Mo.

Arthritis Deformans, Leonard W. Ely, Denver, Colo.

Acute Angulation and Flexure of the Sigmoid as a Causative Factor in Epilepsy with special Reference to Treatment, by W. H. Axtell, Bellingham, Wash.

The character of contributions prepared by these well known surgeons are of such a nature as to make this number particularly interesting.

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J. W. Williams, M. D., 2214 East Broad Street, Richmond, Va.

Signs of Organic Lesions in Epilepsy.

Agosti says that it is coming to be acknowledged that epilepsy is not a functional disease but one that is the result of pathological processes in the cerebrum. The author enumerates the signs of involvement of the cerebral system that are to be looked for in cases of epilepsy; among them are the Babinski sign, lessening of muscular power, muscular hypotonia, Neri's sign, the position of the lids, of the palate, phenomena connected with the hands, the gait, etc. The special morbid reflexes are of diagnostic value. Most of these phenomena belong to groups of associated movements which accompany voluntary movements. The author has made a study of thirty cases

of epilepsy. He concludes that there are cases of epilepsy in which the signs of local organic lesions are evident, and there are other cases in which they are lacking. This absence of such signs may be due to the fact that the existing lesion is still so slight as to cause no symptoms. The author believes that idiopathic epilepsy is due to cerebral changes, alterations of the nervous elements, cellular and fibrous, and that they are the expression of a special alteration of development, causing changes in the cortex cerebri or histological and physicochemical changes in the nerve elements.—Il Policlinico.

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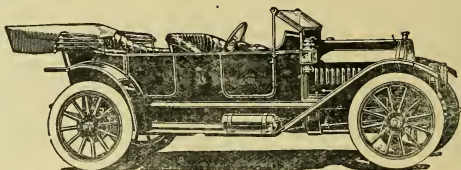


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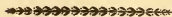
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